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Culture, Communication, Community: Co-Constructing Knowledge and Cultural Images through Computer-mediated Communication

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Culture, Communication, Community: Co-Constructing Knowledge and Cultural Images through Computer-mediated Communication

by

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Dedication

I dedicate this dissertation to Grandma and Grandpa in appreciation of all their love, support, and guidance throughout my life.

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Culture, Communication, Community: Co-Constructing Knowledge and Cultural Images through Computer-mediated Communication

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This study, informed by sociocultural theory and research on negotiation of meaning and computer-mediated communication, investigates differences between two groups of third-semester college students who participated in a semester-long e-mail exchange: one group with native German speakers (NS) and the other with non-American, non-native German speakers (NNS). The premise of the study is that through meaningful, authentic Internet-mediated exchanges in German, students are able to improve their communicative competence and increase their awareness of both their own and other cultures.

Computer-mediated communication (CMC) is a learner-centered tool that allows students to: a) build their own speech communities in the target language, b) guide their own discourse topics, and c) develop a sense of responsibility for their learning (Warschauer 1996, 1997, Beauvois 1998). Furthermore, through communication with members of a foreign culture, students better understand their own and other cultures (Steinig et al. 1998, Schneider & Von der Emde 2000, Furstenburg et al. 2001).

Analyzing the data according to sociocultural theory helps explain why collaboration through CMC is advantageous to foreign language learning and how e-mail exchanges enable students to explore other cultures with their peers. One tenet of sociocultural theory states that using language as a tool to carry out a task, for example a discussion of culture, facilitates learning. During the exchange, students interact with their native German or non-native German speaking peers to reinterpret their previous notions about foreign cultures and the target language. These interactions, in addition to building their knowledge of cultures, can improve students' interlanguage: their intermediate knowledge of German.

An analysis of the e-mail exchanges indicates that students discussed a wide variety of topics. In addition, they were able to initiate topics according to their interests, which led to a deeper understanding of their own and the other culture. Students do not normally engage in these tasks in a foreign language class. Additional research exploring discourse strategy training and discourse topics in a CMC context could elucidate these findings further.

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Chapter 1: Introduction

German departments are looking for new ways to excite students about learning German, increase enrollments, and motivate students to remain in their programs in response to falling German enrollments. Outreach programs, for example, are becoming popular among high schools and universities for their ability to interest elementary students in German before they make their language preference in high school. Princeton University recently instituted a program in which students were able to travel to Germany to finish their fourth semester at the *Goethe Institut* after having completed the first three courses in two semesters (Rankin 2000). Another trend is to incorporate more culture into classroom discussions, but some teachers worry this will be to the detriment of increasing target language (TL) proficiency. Other teachers have been exploring the benefits of computer assisted language learning or computer mediated language learning in the German classroom as another tool for motivation.

While it is not possible for all universities to offer a subsidized program similar to Princeton's, it is important for them to think about ways to offer their German students experiences similar to what they might encounter in Germany, such as communicating with native German speakers or learning about the German cultures from native German speakers. The Princeton students were able to meet other students studying German and realized that their level of German

was sufficient to engage in meaningful conversations with other native or nonnative German speakers. This dissertation explores one way that German teachers in the U.S. can facilitate interaction with native (NS) and nonnative German speakers (NNS). The goal of the study is to compare NS-NNS interactions with discussions between two groups of NNSs and to examine the development of language proficiency and cultural development that takes place during the negotiation of meaning and scaffolding (both cultural and linguistic) in the e-mails.

The study incorporates previous findings of computer mediated communication (CMC), negotiation of meaning, and sociocultural theory in order to investigate the difference between e-mail exchanges between pairs of nonnative German speakers with native German speakers and pairs of nonnative German speakers with other nonnative German speakers. By communicating weekly in the TL with their partners, students are able to guide their own learning and initiate their own topics while negotiating new meanings. The goals of the e-mail exchange are for students to learn more about their own culture and the target culture, to give students a learner-centered context to practice and improve their communicative and linguistic competence, and to increase students' motivation for learning German and about the German culture. After explaining the relevant previous research to this study, I will illustrate how this study fits into the existing body of scholarship. In order to accomplish this, it is necessary to combine

several different research areas. The ultimate objective of this study is to contribute new answers and questions to various areas of second language acquisition and pedagogy research.

LITERATURE REVIEW

Sociocultural Theory

Although the previously mentioned studies do not link negotiation with the concepts of sociocultural theory, I believe that the thoughts of Russian psychologist Lev Vygotsky, upon whose ideas sociocultural theory is based, are closely related to the strategies involved in the negotiation of meaning. According to this theory, higher mental processing originates first on the external plane (two people speaking about a certain idea or task, for example) and is then transferred to the internal, psychological plane through the use of tools, mainly language (Wertsch 1991). Individual learning is then situated in social and cultural contexts and interactions using tools that are part of the interlocutors' cultures (Salomon & Perkins 1998). One situation in which learners use these tools is in the zone of proximal development (ZPD), where they are assisted by an expert until they become self-regulated towards the task and are able to complete the task without assistance (Lantolf & Appel 1994). As learners progress from one level to the next within their ZPD, they often use language during interactions with the expert, to construct the new knowledge and skills necessary to complete

the task alone (Adair-Hauck & Donato 1994). Negotiation of meaning is a fitting setting for students to work within their ZPDs in order to construct new meanings about their own culture and the target language.

The collaboration opportunities in CMC offer numerous ways in which students can mediate information on the external plane in order to construct new knowledge. Since student input is often more equivalent and expressive in CMC, students have more opportunities to work within their ZPDs to build knowledge together in a computer- mediated context. As students are able to interact more fully with texts, including those of their classmates, conversation partners, and readings, they have a greater opportunity to interpret meanings for themselves and negotiate meanings together in the format of learner-centered CMC. According to sociocultural theory, this interpretation and negotiation through language leads to higher order processing than if students were simply reading texts and interpreting them on their own (Warschauer 1997). Computer-mediated communication makes it possible for students to reach beyond the walls of their classroom to explore other cultures, challenge their own ideas about their culture, other cultures, and the TL, and to construct new meanings of these cultures and the TL, all mediated by the students instead of the teacher. Beauvois conducted a study in which her students discussed questions in a chat mode about their readings. She found that the students' writing and speaking skills improved from the scaffolding that took place through the computer discussions during which they had to

negotiate meaning about their texts[1] (1998). Through scaffolding with fellow classmates or NSs and through learning about new and different cultures in CMC, students are given many opportunities to construct new meanings.

Computer-Mediated Communication

CMC, such as interactions through e-mail, chat, and MOOs[2], has been shown to be an effective learner-centered tool to provide students with opportunities to communicate in the TL in the foreign language classroom (Beauvois 1997, Chun 1994, Izumi 2000, Lee 1997, Schneider & von der Emde 2000, Warschauer 1996). Since students have more contact with the TL during CMC than they normally do in the FL classroom, they also have more opportunities for negotiation of meaning and for communication in the TL (Beauvois 1997, Leahy 2001, Warschauer 1996). In several studies concerning CMC involving only FL students, researchers found that CMC fostered more equal participation than in the FL classroom and a higher quantity and quality of language (Beauvois 1998, Warschauer 1996). Several analyses (Beauvois 1998, Kern 1997, Leng et al. 1999, Lee 1997, Schneider & von der Emde 2000) have demonstrated how CMC gives language learners the advantage of guiding their own learning. Students collaborate to develop their own speech community,

[1] This student will be discussed further later.
[2] MOO stands for "multi-user dungeon object oriented" and consists of role-playing games where participants can build their own on-line environments and then visit each other's "rooms."

which consequently directs their discourse topics and structure according to the interests of the newly formed community. Feeling part of a community gives the students a greater sense of responsibility for both their own learning and for that of their classmates (Schneider & von der Emde 2000). Through this community, it is suggested that students develop general communication skills, build trust, and learn methods of managing conflict (Chun 1994, Leng et al. 1999). In addition to these advantages of CMC, learners are exposed to cultural topics in the TL and develop the skills necessary for discussing them in a thorough manner.

In addition to using CMC among FL learners in the same class, the Internet has made it easier for students to traverse national boundaries by inexpensively and efficiently linking FL students with native speakers, or even other nonnative speakers of a language (Furstenburg et al. 2001, Schneider & von der Emde 2000). With these foreign partners, students can explore their beliefs about their own culture and the target culture and compare the individual and cultural difference between themselves and their interlocutors. Through synchronous or asynchronous communication with members of a foreign culture, students have the opportunity to understand their own culture on a deeper level while learning about the foreign culture (Furstenberg et al. 2001, Lee 1997, Leng & Shave et al. 1999, Müller-Hartmann 2000, Schneider & von der Emde 2000, Steinig et al. 1998). While the previous research varies in terms of organization and teacher involvement, all have in common that the student exchanges were

learner-centered, the students were enthusiastic to be involved in authentic[3] language tasks, and that the students used a high rate of target language outside of the FL classroom. All of these characteristics also lead to a higher level of student autonomy during the synchronous (real time) or asynchronous (bulletin board) communication, and as some researchers hint, possibly even in the FL classroom, where students are ultimately responsible for what they learn (Schneider & von der Emde 2000). Through building their own speech community in CMC, guided by their own interests and goals, the students become more involved in and motivated about the tasks in which they are engaged. Since the interactions are student-centered, learners are able to focus more on what interests them about the target culture (Lee 1997, Schneider & von der Emde 2000). The results of my dissertation study will contribute to this body of knowledge concerning CMC and using CMC to communicate with members of other language communities and cultures.

Negotiation of Meaning

While computer-mediated communication is the tool for facilitating communication between NNS-NNS and NS-NNS in the present study, the focus is mainly on the types of interaction that take place between these two groups and not how learners benefit from their use of CMC. The NS are native speakers of

[3] By authentic, I am referring to communication for the sake of exchanging information, not practicing certain grammatical forms in isolation or through rote drilling.

German and the NNS are either third or fourth semester German students or other learners of German who also do not speak English as their first language, for example learners of German from Russia, the Czech Republic, and Sweden. Previous research on the negotiation of meaning between NS-NNS and NNS-NNS (Varonis & Gass 1985, Gass & Varonis 1985) suggests that more negotiation of meaning takes place between two NNSs than between a NS and a NNS. Since NNSs are less embarrassed to call attention to miscommunication when speaking with another NNS who might also have problems understanding or expressing themselves in the FL, they ask more questions and negotiate more often than when interacting with NSs. NNSs repeat more often for each other, speak more slowly, and elaborate more often than NSs. In order for the interlocutors to understand each other, they must correctly interpret what the other person is saying, feel confident about those interpretations, share similar goals for the conversation, and share beliefs and a similar linguistic and cultural system and this is less likely to happen among NNSs than among NSs or between a NS and a NNS (Varonis & Gass 1985).

In studies examining NNS-NS interactions, both Gass and Varonis (1985) and Long (1983) discovered that NSs modify their speech according to how well they *think* the NNS understands them. This altering is influenced by the NNS' pronunciation, the NS's general experience with nonnative speech, and the amount of negotiation in the conversation. The authors concluded that NSs, when

conversing with NNSs, are constantly reassessing the nonnative speaker's competence and readjusting their output accordingly (1985). Due to this high level of alteration of language by the NSs, the possibility for negotiation is decreased because NSs produce speech with the goal that there be no negotiation. This idea was confirmed again by Polio and Gass (1998) who found that the more NSs dominated the conversation, the smaller the opportunity for NNSs to control their own content and form and, ultimately, for negotiation.

Why should FL teachers be interested in fostering negotiation? There have been many studies that praise the benefits of negotiation (de Assis 1997, Long 1983, Pica 1996, Polio & Gass 1998, and Varonis & Gass 1985). Negotiation of meaning enables students to create their own meanings and understandings out of tasks carried out in the FL classroom. The degree and successfulness of negotiation, however, depends on the task, and not all tasks encourage negotiation (de Assis 1997). Through negotiation, FL learners are able to test their hypotheses about the TL and receive feedback, which leads to either a confirmation of the hypothesis or a negation of it. With the help of this feedback, students become more proficient at realizing what they are and are not able to produce without assistance. From a study of interactions between NSs and NNSs, for example, Pica (1996) found that negotiation helped NNSs to receive both positive and negative input regarding their interlanguage so that they could make adjustments accordingly. NSs often repeated NNSs using a more correct

language form so that NNSs can learn how to more closely match their interlanguage with the L2. This increase in negotiation is also beneficial to NNSs because it enables them to gain more comprehensible input necessary for language acquisition and restructuring. If NNSs are hesistant to initiate negotiation with a NS, however, as Varonis and Gass suggest (1985), they may never get input on the *i*+1 level, which, according to Krashen, is a necessary component of language acquisition (1995).

According to these studies then, there are advantages to both NNS-NNS interactions and NS-NNS interactions. Negotiation was found to be beneficial to language learners in both between NNS-NNS and NS-NNS, however Gass and Varonis illustrate that NNSs are more likely to negotiate with each other than with NSs. As NSs find they must negotiate more often with NNSs, they alter their language output in order to be better understood, which could ultimately reduce the amount of negotiating. During negotiation with NSs, however, NNSs are able to receive more input on how to improve their interlanguage toward the target language goals. Based on these findings then, it is not determined whether NNS-NNS or NS-NNS interactions are more conducive to foreign language learning. Furthermore, this issue has not at all been examined in the context of CMC or sociocultural theory. I hope to investigate these findings further, analyzing how students build new meanings together in delayed CMC.

THE STUDY

As the previous sections indicate, the benefits of negotiation of meaning and the use of CMC for FL learning have been suggested by many different studies. Gass and Varonis (1985) and Pica (1996) have made various claims about the merits of communicating with a NNS or NS because of the amount of negotiation or feedback opportunities with either speaker. There has, however, never been a study that investigates the negotiation of meaning within the context of an e-mail exchange and that compares that level of negotiation between NNSs-NNS and NS-NNS dyads. The present study explores whether there is a difference between the negotiation that takes place in these e-mails between the two treatment groups in order to add to the existing knowledge about NS-NNS and NNS-NNS communication, and expanding the previous research foci to include the CMC context. With my findings, I suggest whether it is more beneficial (in terms of negotiation) for NNS students to correspond with other NNS or NS partners per e-mail or if there is a difference between the exchanges of the two groups. Many of the studies involving NS-NNS and NNS-NNS interaction have been conducted in an experimental environment, and it is essential to see if by conducting this study in a classroom, the results might differ. In addition, my study compares the two groups partaking in the same tasks, whereas other studies have focused on either NNS-NNS or NS-NNS interaction alone (Varonis & Gass 1985).

By analyzing the e-mails in the context of sociocultural theory, I hope to contribute to the research on scaffolding in the ZPD. I determine whether the types of scaffolding differ between NNS-NNS and NS-NNS, which would then affect how well students are able to work within their ZPDs. Scaffolding has not yet been examined in e-mail exchanges. This study brings together CMC, negotiation of meaning, and sociocultural theory in order to reflect on how students negotiate meaning with either a NNS or NS during an e-mail exchange and how students' strategies and motivation towards learning change throughout the exchange

The Subjects and Procedures

143 students enrolled in 8 sections of third and fourth semester German at the University of Texas at Austin participated in this study. All but two students were native speakers of English. There were 3 fourth semester German classes and 5 third semester German classes; 4 classes corresponded with NNSs (77 students) and 4 classes corresponded with NSs (66 students). Each Monday students sent an e-mail to either their NS or NNS partner about either a topic they read about and discussed in class the previous week or about a topic that interested them. During the preceding week, students completed pre-reading activities, read an authentic text in German, and participated in post-reading tasks. This procedure is outlined below.

Table 1. Procedure for Writing E-mails

Monday	Students do pre-reading activity for text they will be reading. Send e-mail that relates to the topic of the previous week.
Wednesday	Students read text and discuss in class together
Friday	Students complete post-reading activity about text and prepare for Monday's e-mail.

In order to give the e-exchange a larger goal and so that students could synthesize what they learned from their partner during the semester, students completed other assignments relating to the exchanges during the semester. In the fourth semester class, the students wrote 3 essays and completed one project during the semester. In the third semester class, students wrote 2 text reactions during the semester and completed one essay at the end of the semester. Both classes also participated in 3 synchronous chats with their classmates in order to discuss what they had learned from their e-pals. Combining the knowledge they gained from the texts, the synchronous and asynchronous discussions to write an essay gave the students the opportunity to delve more deeply into their thoughts and opinions about various cultural topics and construct those ideas in the context of an essay.

Data Analysis

There are several methods of assessment in this study. First I measure the amount of negotiation of meaning in the e-mails using the coding method that Varonis and Gass employed in their 1985 study of negotiation of meaning among NNS-NNS face-to-face communication and then compare these findings. The second quantitative measure is to compare the Likert-type surveys administered after the last synchronous chat at the end of the semester using a Chi-square test to contrast the two groups' attitudes towards the e-mail exchanges and the synchronous chats. The e-mails are also analyzed qualitatively to investigate how the two groups differ in the negotiation of meaning and scaffolding.

Data used for the quantitative analyses:

1. Surveys that assess students' attitudes towards the e-mail exchange and asynchronous chat experiences.
2. Amount of negotiation that takes place in the e-mails.
3. Amount of scaffolding (linguistic and ZPD) that takes place in the e-mails

Data used for the qualitative analyses:

1. Compare the output in students' e-mails in the two groups in terms of: linguistic and ZPD scaffolding and negotiation of meaning.

Between the quantitative and qualitative analyses of the e-mail exchanges, synchronous chats, essays, and interviews, I reach conclusions that distinguish the kinds of learning that occur when FL learners are engaged with native speakers

versus nonnative speakers and how their interaction affects their knowledge of the German language and culture after one semester.

Table 2. Research Questions

	Quantitative questions	***Qualitative questions***
Negotiation of meaning (per e-mails)	Do the NNS-NNS dyads negotiate meaning more than the NNS–NS dyads? Hypothesis: Yes, the NNS-NNS groups will negotiate more than the NNS–NS dyads. (based on the results of Varonis & Gass 1985)	Do the two groups build and utilize negotiation of meaning differently? If yes, what purposes does their negotiation of meaning serve?
Topic, Lexical, Syntax Scaffolding (per e-mails)	Do the American students scaffold more linguistically with their German NS peers than with other non-native speakers of German? Hypothesis: Yes, they will scaffold more with German native speakers because they will view the Germans as linguistic experts and the other NNSs as fellow non-experts.	How do students scaffold the language of their interlocutors in terms of vocabulary, syntax and topic to improve their own comprehensibility in the e-mails? Do the types of linguistic scaffolding differ between the NNS-NNS and NNS-NS dyads?
ZPD Progression and Scaffolding (per e-mails)	Do the e-pals in the German-American dyads scaffold more content knowledge with each other than e-pals in the NNS-NNS dyads? Hypothesis: The American -German dyads will scaffold less content knowledge with each other than the American-NNS dyads because Germans would assume expert role and not allow their NNS e-pals to question and co-contribute to a discussion.	How do American students scaffold content knowledge from their e-pals to improve their understanding of various topics?
Attitudes (per survey)	Do American students with German e-pals have a more positive attitude towards the e-exchanges than the American students with other non-native German e-pals? Hypothesis: No, the two groups would have equally positive attitudes towards the e-exchanges	

In regard to negotiation of meaning, I test the claim that interactions between NNSs and NSs consist of less negotiation than interactions between NNSs (Varonis and Gass 1985) and examine whether the NS-NNS dyads benefited more from more instances of negotiation (Pica 1985), however this time in the context of an e-mail exchange.

In addition to analyzing the e-mails in terms of negotiation of meaning, I categorize students' linguistic scaffolding in the e-mails according to topic, vocabulary, and syntax in order to measure which group scaffolds more and how they scaffold in order to make themselves more comprehensible to their partners.

The e-mails are also analyzed in the context of sociocultural theory to find out whether students are more likely to scaffold meaning with a NNS or NS. How do they build meaning together? Are students able to work within their German culture and language ZPD's to become more self-regulated within those contexts? I expect that students, from scaffolding other NNSs or NSs, will improve their linguistic knowledge of German and become more informed about German culture and their own.

In terms of students' enjoyment of the exchange, I investigate whether by situating the context of the German assignment to being a conversation where communication and understanding are necessary, the students' goals and attitudes toward the assignment change and there is a difference between the two groups. I question whether the NS-NNS will feel more comfortable interacting with NSs

after the exchange. Could these interactions with NSs initiate long lasting contacts with German speakers or could this authentic interaction with NSs encourage students to further their study of German as the trip to Germany did in Princeton (see page 1)? Will communicating with other NNSs of German encourage students to learn more German because they will experience that it is learned by people all over the world? The effects of these chats on students' motivation, goals, and strategies will be interesting to explore and offer suggestions for German teachers to make students more enthusiastic about learning German.

CHAPTER SUMMARY

By linking the ideas of computer-mediated communication, negotiation of meaning, and sociocultural theory, I answer several questions about the kind of learning and negotiation of meaning that occurs between both non-native groups of speakers and non-native speakers interacting with native speakers, and then to compare the findings in the language data of each of these groups. With this knowledge, I offer ideas for ways to incorporate culture into the foreign language classroom through the FL, ways to increase motivation for German, and ideas to improve methods of using the FL in a meaningful authentic manner in order to increase students' fluency.

Chapter 2: Literature Review

In order to assess the differences between NS-NNS and NNS-NNS communication in a semester-long e-mail exchange, I employ the theories of sociocultural theory, specifically scaffolding within the zone of proximal development, and findings of research on computer-mediated communication and negotiation of meaning. Sociocultural theory is used as a theoretical framework for explaining and analyzing how students use language to further their understanding of both the target language and culture. This acquisition will take place in the context of CMC, therefore, it is necessary to explain the opportunities offered in CMC, such as a high level of contact with the target language and members of the target culture, to which students do not normally have access in face-to-face communication in the foreign language classroom. Finally, since one of the research questions in the study deals with the negotiation of meaning between the native speaker (NS)-nonnative speaker (NNS) and NNS-NNS groups, the third section of this literature review is an overview of previous studies on NNS-NNS and NS-NNS negotiation of meaning. Employing sociocultural theory and the finding of research about CMC and negotiation of meaning will allow this study to answer questions about how third- and fourth-semester students studying German communicate with either NNSs or NSs an a semester-long e-mail exchange.

SOCIOCULTURAL THEORY

Introduction

Sociocultural theory, associated with the theories of child developmental psychologist Lev Vygotsky, has recently become popular in FL pedagogy. Vygotsky believed that learning takes place on the external plane before it becomes internalized (1978). Even individual learning is embedded in a social context and, therefore, almost always has a social element. In this section, I will first discuss the social aspects of learning and then explain Vygotsky's influences on sociocultural theory and how sociocultural theory informs my research.

Gavriel Salomon and David Perkins (1998) suggest that although some learning takes place on an individual level, it is always embedded within a social context and aided by social mediation. In their chapter, they define social learning in four different ways. First, during individual learning, there is social mediation in the form of a teacher, a team or a group working together, or even a parent helping a child. The group members are able to help each other until the desired goal is reached or until the material is mastered. Second, during social learning, all participants share their current knowledge in order to acquire deeper understandings during the learning process. The learning is shared and jointly constructed among all participants and understandings that emerge through interaction are consequently shared by everyone involved in the process.

Third, social learning is also facilitated by cultural scaffolding in the form of an expert/novice partnership or the novice uses cultural tools and information sources, such as books or language, as aids in the learning process. With the help of these tools, the learner is able to achieve more than she would have been able to manage alone. Since tools are a product of a certain culture, the mediation they provide is always embedded within its culture. The learning that results from the tools' mediation is then an extension of the culture within which it occurs. Thus tools have two roles. They are a means to act upon the world and they provide the cognitive scaffolding needed to be able to act upon the world. Because of this two-fold function of tools, they provide the necessary means for the use and manipulation of culture. Tools supply the learner with the scaffolding for immediate learning because they contain a "culture's accumulated wisdom and intellectual history" (Vygotsky 1978). The more we use tools to further and deepen our understandings, the more culturally embedded they become.

Fourthly, Salomon and Perkins define social learning in the context of an entire social entity as a learning system. In this context, there is no expert, but the entire social entity is responsible for its collective learning. This learning can take place in teams, entire cultures, or organizations, for example. In this context, the group must both learn how to work together to negotiate a common goal and then collaborate to learn what is necessary as a group to reach that goal together. Without learning to be a social learner, one cannot capitalize on its benefits.

The above descriptions of social learning illustrate how social learning and individual learning intersect. Individual learning can be socially mediated whether by a tool, expert, peer, or other members of a group. The tools that a novice uses to mediate learning to help the learner create new understandings both culturally and intellectually. After establishing that learning is a social endeavor, Salomon and Perkins conclude their article with the implications social learning has on instruction. They highlight that social learning should be facilitated in the classroom in order to encourage "spirals of reciprocity" among learners so that they are encouraged to share and build new understandings together (p. 20). Self-mediation or mediation by other agents should also be encouraged through planned, conceptually oriented tasks. Students should learn to learn from others, with others, and from other cultural artifacts including books or computers for example.

While Salomon and Perkins present a thorough introduction to social learning and mediation by tools, they fail to include language as a culturally constructed tool. Socioculturalists have also found that we use tools in order to mediate our interactions with the world around us. A tool, for example, can act as a memory aid. Connecting what we want to remember with a tool, such as tying a string around a finger, will help us to remember something. Language is also a tool; a culturally constructed tool that we use in order to learn something or to interpret something about our world. The more we negotiate with the tools

available to us, the better we will internalize and process what we are learning and we will then begin to make new meanings and understandings of the world around us.

In Wertsch's (1991) explanation of higher mental functioning, he states that mediation is the link between interpsychological and intrapsychological functioning. When a psychological tool such as language is introduced into a mental function, that mental function is enhanced due to the influence of the tool. One uses a tool on the external plane and then internalizes the new information or knowledge gained from the mediation by the tool. As the students wrote e-mails during the semester, I hypothesized that their German would improve as they used the language as a tool to express themselves more clearly and to understand the ideas and opinions of their partner.

As the students began to use German for their own purposes, I also hoped they would find their own voice in German. Since they were discussing topics in which they were interested and had to construct sentences and use vocabulary in order to express their own ideas, they were able to develop their own voice in German. This concept is best expressed in a quote by Bakhtin (1986), who describes how speakers incorporate language to serve their own intentions.

> The word in language is half someone else's. It becomes one's own only when the speaker populates it with her own intention, her own accent, when she appropriates the word. Prior to this moment of appropriation, the word does not exist in a neutral and impersonal language, but rather it exists in other people's mouths, in other people's concrete contexts,

> serving other people's intentions; it is from there that one must take the word and make it one's own.

By writing e-mails driven by their own interests, students in this study were able to make German their own. In normal class activities, students are constrained by the grammar, vocabulary, topics, time, and goals required by the task. In these e-mail assignments, students were able to write about any subject they chose and were able to use the grammar and vocabulary they either felt most comfortable using or that they wanted to practice. According to Wertsch (1991) and Bakhtin (1986), by writing e-mails in their own voices and according to their own interests, students were able to use language to mediate a clearer understanding of both the German language and the topics they discussed and find their own voice in the German language.

There are three ideas associated with sociocultural theory that pertain directly to my research, and I will define and explain them in this section: language as a mediator or tool, collaborative learning, scaffolding, and the zone of proximal development.

Language as Mediator or Tool

There are several studies and discussions which expand the notion of language as a mediator and facilitator of higher level thinking. As Platt and Brooks (1994) point out, the goal of speech activity is not merely the exchange of information, but rather a means to negotiate meaning and progress to deeper

understandings. By using language as a tool for problem solving tasks, the interlocutors are able to reach a point at which they can complete the task without the help of that tool. For example, the first time I attempt a new recipe, I use a cookbook and possibly engage in private speech (talk to myself) as I complete the recipe in order to regulate my actions. The second time, I might not need private speech to complete the dish, and the third time, I might not even need the recipe. At this point, I would have reached autonomy and would no longer rely on tools in order to complete the task. Reaching autonomy is also applicable on a more conceptual level. When faced with a challenging situation, interlocutors might use language to discuss it and to find a solution. Eventually, the speakers no longer rely on language or discussion to solve the problem and are autonomous. Teachers can also organize this type of progression for their students in the foreign language (FL) classroom. The following studies will discuss different ways to use language as a mediator in the FL classroom.

As mentioned above, we sometimes use private speech in order to guide us through a problem. Private speech first occurs among children when they are confronted with difficulties of a cognitive nature. As adults, we revert to using private speech, the intersection of thought and language, to solve a problem. When we become more autonomous or self-regulated towards a task, private speech (aloud) becomes inner speech (silent). Inner speech is more synonymous with thought because of its semantically rich characteristics, while private speech

retains more purely syntactic elements. Using private speech is a way to help us process our experiences, instead of just describing them, which is one of the purposes of language according to sociocultural theory (McCafferty 1994).

In a review of studies on language learners' use of private speech, McCafferty traces how learners progress from needing assistance to perform a task to completing the task alone, what he defines as moving from object-regulation to self-regulation using language as a tool. During object-regulation, the learners indicated through metacomments, comments about the task such as discussion about the instructions, and other affective markers that they did not have complete understanding of or involvement in the task. This stage is termed object-regulation because the learner does not have control over the task due to his lack of understanding of how to tackle the task. With assistance, the learner progressed to other-regulation, which was marked by questions to the expert or self-directed questions. The self-directed questions allowed the learner to use language to gain more control over the task and enabled the learner to achieve self-regulation. At this point he indicated through metacomments that he had internalized the goals and information necessary to complete the task without assistance.

In addition to moving the learner from object to self-regulation, private speech was useful in the metacognitive task of planning, maintaining attention to the task, monitoring the strategies and goals involved in completing the task, and

expressing affective reactions to the task. The amount of private speech learners produced during a task was also influenced by the type of task, the goal of the task, the number of participants involved, the level of difficulty, the learners' degrees of motivation, and the learners' cultural backgrounds. In conclusion, McCafferty found that learners "expend just as much or more effort to self-regulate as to communicate" (p. 433) and that cultural backgrounds have a large influence on how learners negotiate in order to reach self-regulation.

Appel and Lantolf (1994) conducted a study in which they examined the influences of private speech on text recall tasks among both native and nonnative speakers. The subjects were asked to read a text and then recall it orally. They chose oral recalls because the subjects would be more likely to produce metacomments or private speech when retelling the story orally. The authors found that both first language (L1) and second language (L2) learners use the same strategies when trying to recall written texts. Both used private speech to help themselves orient and reorient to the task in order to maintain their goal and strategies for the task. Since the subjects also construct meaning from the text after they are finished reading, during recall for example, the authors conclude that FL students should also be given the opportunity to construct meaning from texts after reading them. Students should be able to collaborate during post-reading activities that do not merely test students' comprehension of the text, but that encourage them to create their own meanings from the text. As the results of

this study suggest, recall tasks are just one way to help readers understand texts due to the high rate of metacomments and private speech during a text recall.

One other study has been conducted in the context of sociocultural theory to investigate the different ways that L2 learners use language to regulate themselves during a task. Ahmed (1996) posits that students illustrated their lack of control over the task when they alternated between describing pictures in the past and progressive tense. As students came to understand the event and gained control over the dialogue, they switched to using present tense. Ahmed argues that this switch in tense also marks the students' switch from object- and other-regulation to self-regulation. As they become more comfortable with the task, they are able to monitor their language forms more successfully. Finally, Ahmed also found that both native speakers and non-native speakers exhibit object-regulated behavior depending on the degree of difficulty of the task.

The research on private speech provides us with a clue to how adult-learners progress from object- to self-regulation. Private speech, inner speech that has not yet been internalized, illustrates the intrapersonal process involved in attaining the skill necessary to complete a task alone or to achieve self-regulation. The occurrence of private speech also strengthens the belief that language can be used as a tool to understand and complete tasks. By observing private speech, we can trace how someone begins a task with markers of object regulation, such as

just naming and describing aspects of the task, and moves towards self-regulation where she indicates that she has mastered the task.

Collaborative Learning

Brooks et al. (1997) investigated the benefits of collaborative work among FL learners in the context of sociocultural theory. The researchers divided students' talk into four different categories in order to determine what exactly they were doing with language while describing one half of a jigsaw diagram to each other. Students' use of metatalk (students talking about their own speaking such as vocabulary or how to express themselves in the FL) decreased and changed from Spanish to English as the task progressed and as students began to understand which language resources they had in order to complete the task. Similar to the decrease in metatalk, students talked less about the task itself after they understood what was required of them. These results suggest that students became more confident with the task as they became more familiar with it and no longer needed to consult on the directions and goals. Most groups used less English as they spent more time on the task, which illustrates how they progressed from object to self-regulation. Finally, students whispered less to themselves between task 1 and task 5 as they gained more control over their language and the task. The authors conclude that collaborative tasks in the FL classroom have both interpersonal and intrapersonal advantages. Learners are able to work together and share their knowledge to complete a task and ultimately grow on an

individual level. Brooks et al. (1997) argue that individual development is a result of "socially mediated forms of interaction within cultural institutions" (p. 534) and students therefore need both an input-rich environment as well as a collaboration-rich environment in order to enrich their FL proficiency.

In another analysis of group work, Davis (1997) argues in favor of its affective factors because of its lowering affect on anxiety and how it facilitates learning among different learning styles. In terms of discourse, group work allows students to interact with each other, which in turn minimizes the role of the teacher and allows the students more time for interaction among themselves. Students are also able to practice a wider range of discourse functions, such as turn-taking and topic selection, when speaking with each other rather than their teacher. While I appreciate Davis' acknowledgement of the advantages and disadvantages of "group work," I notice that he fails to take into account the mediation benefits of students collaborating on the completion of a task. He views group work more as merely another activity for the FL classroom that lowers anxiety and facilitates "meaningful communication." This view however does not consider the scaffolding, mediation, or regulation benefits of collaborative learning[4]. As Vygotsky (1978) suggests, collaborative learning

[4] Instead of the term "group work," I prefer collaborative learning to define the act of students working together to solve a problem. Group work does not imply that the students are all lending an important piece of information to the problem-solving process.

allows students to process a task in order to come to a deeper understanding of it and eventually master it.

Scaffolding

Another benefit of collaborative learning that has been researched in connection with sociocultural theory is scaffolding. Scaffolding is a term that originated in cognitive psychology and describes how a novice can reach a higher level of understanding of a task and develop his/her current skills by collaborating with an expert during the completion of the task (Donato 1994). The benefits of scaffolding are described by Wood, Bruner, and Ross (1976) - 1) recruiting interest in the task, 2) simplifying the task, 3) maintaining pursuit of the goal, 4) marking critical features and discrepancies between what has been produced and the ideal solution, 5) controlling frustration during problem solving, and 6) demonstrating an idealized version of the act to be performed. In his study, Donato found that scaffolding does not have to be performed between an expert and a novice to be productive. L2 learners collaborating on a task are able to construct meaning together and complete a task that they may not have been able to master alone. In analyzing a one-hour planning session where L2 learners worked together to complete their projects, Donato found that out of the 32 instances of scaffolding that were observed, there were 24 instances when individual students later produced the same scaffolded help utterances without assistance. These results concur with the tenets of Vygotskian theory which state

that individual knowledge is first manifested on the social, dialogic plane before becoming internalized.

While Donato noticed the benefits of scaffolding among L2 learners during a planning session, Anton and DiCamilla (1998) investigated how the use of the L1 and students' scaffolding facilitated the completion of a writing task. In addition to defining the benefits of scaffolding among L2 learners, the importance of intersubjectivity is also noted in this study. Intersubjectivity is achieved when learners collaboratively define the various aspects of their tasks, such as the goal and the strategies necessary to reach that goal. Without first achieving intersubjectivity, completion of a task is impeded because the learners are applying different tactics to reach different goals. The results of the study demonstrate that the L1 acts as a psychological tool in order to facilitate scaffolding, intersubjectivity, and private speech among L2 learners during a writing task.

The studies mentioned above all refer to the advantages of collaborative learning in L2 classrooms. Brooks et al. (1997) noticed how students' metatalk and use of the L1 decreases as they become more comfortable with a collaborative task and Davis praises the affective benefits of collaborative learning. Donato (1994) and Anton and DiCamilla (1998) agree with the importance of collaboration in L2 learning and introduce scaffolding as one reason for students' language development in the context of interaction. The

results of each of these studies suggest that students need opportunities for collaboration, not just input, in order for their language to develop. The next group of studies defines how working within the zone of proximal development during scaffolding facilitates mastery of a task.

Zone of Proximal Development

The zone of proximal development (ZPD) differentiates between a learner's actual and potential abilities. With the help of an expert or peer, a learner can progress from a state of object-regulation where she does not have understanding or involvement in the task, to other-regulation where she needs the assistance of an expert or peer to complete the task, to self-regulation where the learner has internalized the goals and information necessary to complete the task and is able to complete it without assistance. As long as the task is attempted in the learner's ZPD, which is at a level just a little higher than the learner's current level, the learner is able to eventually master the task. The expert or peer should provide the minimum amount of assistance to the novice so that s/he can complete the task and should continually assess the needs of the novice to regulate assistance accordingly (Aljaafreh & Lantolf 1994). This idea also relates to Krashen's idea of *i*+1 that the ideal level of language input for FL learners is just a little above their current level so that they are challenged, but if the level is too high, they will not understand anything and therefore not learn anything (1985). While *i*+1 refers mainly to the level of language, the zone of proximal

development includes any kind of assistance so that the learner can complete a task.

In their study, Aljaafreh and Lantolf (1994) observed how students became less reliant on their writing tutors while working within their ZPDs. In the beginning of the study, students were not able to notice or correct their errors even with help from the tutor (object-regulation). Soon, students were able to notice and correct errors, but only with the tutor's help (other-regulation). By the end of the study, students were consistent in using the target structure correctly (self-regulation). Working in the ZPD with a tutor was one way in which Aljaafreh and Lantolf found that L2 learners could improve their writing and self-editing skills.

In another ZPD study, the teacher acts as the expert to negotiate and mediate grammar explanations while helping her students progress within their ZPDs. Adair-Hauck and Donato (1994) conducted a study in which a grammar lesson concentrated on whole language or meaning-based activities before shifting to focus on form and then concluded with higher level meaning based tasks. Since the first task highlighted only meaning, students were encouraged to use the new grammar point in order to complete the task. The task was designed in this manner because the authors argue that the thinking process should be emphasized over the product in a ZPD lesson. As the lesson progresses, the teacher should notice the students' development and modify accordingly. How

well students progress from one level to the next in the ZPD depends on the "negotiation of meaning, coherence, and participation between the expert and the novice" (p. 541). At first there is so little coherence between the expert and novice definition of the task, that they are practically involved in different activities. As the expert begins to regulate the novice's actions and offers more support, the novice takes on more responsibility for completing the task alone. Finally the novice becomes her own coach and is able to take over the role previously assumed by the teacher. The authors suggest that in order to teach in the ZPD, teachers should access higher skills before procedural skills and sequence tasks from simple to complex. The teacher or expert must focus on each step involved in progressing through the ZPD rather than focusing solely on the end product and correct production of the new grammar point.

While I agree that this method of teaching would benefit students greatly, I question how one teacher could teach within the zone of each of her student's zones of proximal development. Since learners have different ZPD's (Aljaafreh & Lantolf 1994), it seems that teaching and learning within the ZPD would be easier between a small group of people. Working in the ZPD with other peers might be one way to facilitate ZPD learning in a large class while taking into account the different ZPDs. This is evident in the study below.

In a study of the ZPD and peer revision, De Guerrero and Villamil (1994) traced how students progressed from object to self-regulation with a fellow

classmate. After being trained to write both narrative and persuasive essays and learning how to systematically revise a peer's essay, intermediate English language students from Inter American University of Puerto Rico were tape recorded while revising each others' essays. The researchers found that most of the writers were other-regulated while the readers were self-regulated, however the students shifted between object-, other-, and self-regulation throughout the task depending on the demands of the task. The students had constant access to "lower or higher forms of regulation during revision depending on a variety of task factors: L2 knowledge, awareness of goals, mastery of rhetorical mode, role adopted (whether reader or writer), and presence of a collaborator who could engage, in turn, in as much regulatory fluctuation" (p. 491). Relationships were more symmetrical when students shared the same level of regulation and the same goals towards the task and relationships were asymmetrical when students were at different levels of regulation and one student, therefore, had more control over the task.

The most frequent type of asymmetrical relationships was other-regulated/self-regulated (DeGuerrero & Villamil 1994). In this environment, learning was facilitated through the more skilled peer helping the other-regulated peer within his ZPD to progress to self-regulation. If both students were other-regulated, they would either decide on a solution to the problem (sometimes an incorrect solution) or ask the teacher or another student for help. They seldom

gave up. This suggests that students work together until they have satisfactorily completed a task and likely learn more about the FL in doing so. Allowing students to interact with peers in order to complete different tasks, allows them to assume various roles and access to different strategies to be able to complete the task. Peers are able to work together to complete a task and then later internalize those cognitive processes in order to be able to complete future similar tasks alone. Since, according to sociocultural theory, learning is a process-oriented activity, in which learners fluctuate between levels of regulation depending on the demands of the task, collaboration tasks, whether with peers or an expert, allow students to work through their different levels of regulation until they are solidly self-regulated in all tasks.

The studies mentioned above illustrate the main tenets of sociocultural theory – the social nature of learning, language as a mediator and tool, and zone of proximal development – explain the some of the dynamics of FL learning, and offer effective ways for teachers to incorporate these ideas into their teaching. Language should be seen as part of a process to higher mental functioning instead of just an end in itself. Students can use language not only to become more proficient in interacting in that language, but also to internalize new information gained from the mediation through language. When conducted with a peer or expert, this mediation often occurs in the zone of proximal development. In the ZPD, students are able to advance from object-regulation, where they are not able

to complete the task alone and have no control over it themselves, to self-regulation where they need no assistance to complete the task. How effectively and in what manner tasks are completed depends both on students' abilities and also their orientation towards the task. These beliefs of sociocultural theory stress that since learning takes place within its sociocultural context and the external environment of all learning should be taken into account when analyzing the learning process.

By analyzing the results of my study in the context of sociocultural theory, I examine how students use language to mediate their e-mail exchanges. Through the discussion of complicated topics, students are able to construct deeper understandings of topics initiated by both the learners and their partners. I also investigate if and how students scaffold with their partners to progress from object- to self-regulation. I hope to expand the current research on sociocultural theory by illustrating how language is used as a mediator to facilitate language learning in an e-mail context rather than face-to-face, on which most of the previous research focuses.

COMPUTER-MEDIATED COMMUNICATION

Introduction

Computer-mediated communication (CMC) is a tool that "reconstructs for the learner the multidimensional nature of language" because it brings together the linguistic, cultural, and visual elements of language (Furstenburg 1997, p. 21).

As students explore these intersections of language using technology, they can develop the skills to become autonomous learners and actively guide their own learning. In my study, students experience the "linguistic, cultural, and visual elements of language" through e-mailing with a foreign e-pal, where the CMC context allows them to explore independently the elements of the target language and culture in which they are interested. In this section, I first summarize applications of technology in the foreign language classroom and then review studies that have explored the benefits of these applications.

Furstenburg points out the benefits of technology in which she lists the various opportunities technology offers to language students and focuses on how teachers must adapt in order to incorporate technology into their lessons (1997). Multimedia offers a lush context for learning about both language and culture because it allows students to interact with a large variety of texts, contexts, and other target language (TL) speakers (Furstenburg 1997). In order to take advantage of technology most efficiently, teachers must first learn how to use technology and how to design tasks specific to their teaching goals. In some cases, this might include changing previous FL classroom goals in order to incorporate the "interactive, collaborative, and process-oriented features of technology" (Furstenburg 1997, p. 23). Instead of using technology as a different means to carry out the same task students have been doing in the classroom, teachers should recognize what additional learning opportunities technology can

bring to the classroom and take advantage of the creativity and autonomy for which it allows. Rather than the teacher being at the center of the interaction, Furstenburg claims there should be a triangle where students interact with each other, the computer, and the teacher in order to maximize their learning and autonomy. This is only possible, however, through well-designed tasks.

Because of the interactive dynamic of computer-mediated communication, tasks can easily be designed to correspond with the national standards for FL learning. Gonglewski (1999) also refers to the individualized learning process created by CMC, which allows students to control their own learning: students can interact more with the FL materials, which eventually leads to greater retention of knowledge. After listing these benefits of CMC, Gonglewski describes how CMC can be used to facilitate each of the five national standards. Within the standard of Communication, the Internet allows students to connect with each other, other language learners, or even native speakers and to gain exposure to authentic texts written in a variety of genres and styles. By examining authentic texts online or communicating with other speakers of the TL, students gain more cross-cultural awareness, which fulfills the second standard, Cultures. Those same authentic texts can be used as references for information about other disciplines in which students are interested to allow students to gain different viewpoints of those subjects through a FL, meeting the proposal of Connections. The fourth standard, Comparisons, can also be explored through the

Internet. In order to demonstrate their understanding of both their own and the target language and culture, Gonglewski suggests that students use web journals as portfolios and/or engage in exchanges with native speakers through the Internet. Finally, once students have been introduced to the different capabilities of the Internet, they might start using the Internet outside of the classroom and fulfill the last standard, Communities. Gonglewski concludes by pointing out that the Internet has two functions. First, it offers an extensive supply of information for the language learner and teacher and second, it inexpensively links the FL learner with other speakers of the TL which could ultimately motivate learners to continue their learning outside of the classroom.

While Gonglewski and Furstenburg write about the benefits of CMC, Kern lists the different ways students and teachers can use the Internet to communicate with each other or other speakers of the TL (1997). Synchronous communication, such as chat, allows students to exchange their ideas freely while producing more turns and a larger variety of discourse functions than in the typical FL classroom. Students communicate in a more fluent manner because of the rapid nature of synchronous communication, but their spelling and grammatical accuracy may suffer. Since the chats can be printed out and viewed later, teachers can address these mistakes as they find necessary; alternately, synchronous chats can be used for increasing fluency, expressing ideas, and

practicing different discourse functions (Beauvois 1997), leaving a discussion of grammatical issues to other types of post-chat tasks (Kern 1997).

In addition to synchronous chats, Kerns points out that intercultural exchanges, would be best facilitated through asynchronous discussions, such as e-mail. Because of the time differences between the US and other countries, it would be difficult to engage in a synchronous discussion with students from Germany, for example. By communicating with foreign peers, students are able to experience a much richer sociolinguistic or cultural lesson than they could get from their teacher alone in the FL classroom. Kern points out (1997), however, one downfall of an e-mail exchange could be that certain sociocultural differences, such as expressing a difference of opinion, might not be evident because of the friendly, yet polite register strangers use with one another. In any case, the opportunity to discuss a wide range of topics with a greater audience than students have access to within the classroom allows students to gain greater insight into the target language and culture than they could acquire in the FL classroom alone.

Finally, Kern briefly discusses MOOs as textually created environments in cyberspace where learners can meet and interact. Since the rooms are created by the users, there is a strong sense of community among the users, and students are able to create and interact in a variety of situations. With the Internet, students are able to communicate with learners outside of the classroom, perhaps even

outside of their own country. Through negotiation of meaning across linguistic and cultural boundaries, students enrich both their communication skills and their cultural knowledge of the target culture.

As mentioned by Furstenburg (1997), technology cannot be used as an end in itself. Teachers must design tasks that correspond to their teaching goals and use technology as a goal to reach these goals. Warschauer (2000) conducted a two-year ethnographic study in which he compared how different teachers applied technology in their classrooms, how these applications achieved their goals, how the students reacted to the various uses of technology, and what they felt they achieved through the use of technology. Warschauer contrasted 1) an ESL writing class at a Christian college where technology was used to reinforce discipline and order in the classroom through online quizzes, 2) a graduate ESL class at the University of Hawaii where students engaged in computer-mediated discussions to share ideas about the US, wrote e-mail journals to their teacher, joined academic list serves, and published web pages about themselves 3) a Hawaiian class at the University of Hawaii where students engaged in computer-assisted discussions, corresponded with other students of Hawaiian through e-mail, and posted their final research project on Hawaiian culture on the web, 4) an English class at a community college where students conducted computer-assisted discussions in order to practice their writing and created informational web pages for community or campus organizations. Warschauer found that, in each of these

contexts, technology was used to serve the principles and beliefs of the teachers and their teaching institutions. While some students enjoyed integrating technology with developing writing skills, others felt that too much time was spent on technology at the expense of practicing English and writing. Students' attitudes towards the task seemed to be based on whether they understood the purpose of the activity.

If students' goals matched the goals and purposes of the computer based tasks, then they seemed to be motivated to complete the task. Warschauer makes a comparison between "strong purpose" and "weak purpose electronic literacy activities" in order to illustrate this point (p. 9). He found that it is important for students to understand why they are completing the activity and how it is relevant to them, and for teachers to encourage students to take advantage of the technological features available to complete the task so that students will be motivated to use technology to communicate in a new way. Warschauer concludes by highlighting that students need an authentic purpose in order to learn best. If students noticed that a task was tied to a larger goal, such as building a portfolio, they were more motivated to complete it. In addition, since computers allow students to guide their own learning, Warschauer observed that they were especially frustrated when not given the chance for autonomous learning. If students are encouraged to publish their work on the web, they should also be given the chance to make it appropriate to the medium of the web, for example.

Finally, Warschauer noticed that the Internet was especially successful in allowing students to express and explore their cultural and social identities, suggesting that they be given the opportunity to do so within computer mediated contexts. Warschauer's study reinforces the assertions of Furstenburg (1997) of the importance of task choice when engaging in CMC and reminds the teacher how his/her own beliefs can influence the learning goals and, therefore, the CMC tasks involved in reaching those goals. Two types of applications that teachers can consider using when designing tasks are synchronous and asynchronous communication. These applications along with studies that have employed them will be discussed below.

Synchronous CMC

Synchronous communication is one way in which students can converse with each other in large or small groups in real time. Participation has been found to be more equal in synchronous communication because all students are able to contribute at their own pace (Beauvois 1997,1998, Freiermuth 2001, Warschauer 1997). Not only do students have the opportunity to contribute more and more often, but they can do so without the influence of teacher talk (Warschauer 1997). Students are able to lead the discussion as they choose in order to complete the task the teacher chose for them. Warschauer (1997) found that students' language is lexically and syntactically more complex in synchronous communication and they traverse a wide array of communicative functions. If teachers worry about

students' accuracy suffering during the discussions (which it sometimes does), they can use the transcripts for a grammar review during a later class. Although synchronous CMC allows all students to take turns in the discussion whenever they choose, this can sometimes create and information overload for the students (Warschauer 1997). It is also difficult to reach a consensus during the online discussion, so teachers should use synchronous communication for discussion topics rather than tasks where students have agree on an answer (Warschauer 1997). Beauvois (1997, 1998), Chun (1994), Freiermuth (2001), Toyoda & Harrison (2002), and Warschauer (1996), all conducted studies in which they show the differences between benefits to synchronous CMC discussions compared to face-to-face communication.

In a study in which Warschauer (1996) compares face-to-face and electronic discussion, he found that electronic communication allowed for more equal participation. Students reported that they could express themselves "more freely, comfortably, and creatively during electronic discussion, that participating in electronic discussion assisted their thinking ability, and that they did not feel stress during electronic discussion" (p. 10). The statistical results, as measured by the number of words per speakers and the complexity of students' output (total number of different words and the number of independent clauses divided by number of combined clauses), also showed that not only did students participate more in the electronic discussion, but that their language was more lexically and

syntactically complex, possibly because written language is often more complex than spoken language. For probably the same reason, students did not use as much interactional discourse, such as questioning, recasting, and confirmation checks in the electronic discussion because they were relying on the strategies of written language more than spoken. Warschauer concludes that electronic discussion creates more chances for equal participation and that it could be useful as a pre-discussion or pre-writing task as a way for students to generate and discuss ideas.

In one of her studies, Beauvois (1997) compared the oral skills of two groups of students after a semester of either synchronous CMC discussion or oral discussion. As the semester progressed, Beauvois found that the CMC students became more creative and expressive in their answers to questions from the textbook and texts. During the semester all students took three 10-minute long oral exams, which were graded by the instructor on which the CMC students scored higher than the oral discussion only group. Beauvois offered several explanations as to why this occurred. First, since students were able to share all of their ideas at their own pace while reading the ideas of other students in a non-threatening environment, they were exposed to the target language longer than students in the regular classroom. Second, it is also possible that the novelty of the technology captured the students' interest more than the classroom students, but Beauvois argues that students seemed less interested in the computers as the

semester went on and that the Hawthorne effect[5] did not have a large influence on the results of the students' oral exams. Finally, it is possible that the CMC students outperformed the classroom students on oral exams due to reasons social in nature. Students build a speech community within the CMC environment and are able to scaffold and negotiate meaning and progress in their language learning together. While Beauvois' results are only from a pilot study of a small number of students, they do suggest that synchronous communication has a positive influence on speaking.

In a second study Beauvois (1998), similar to Warschauer (1996), compares the instances of code-switching, the quality and quantity of language and the general classroom atmosphere between a classroom and computer lab context. During the synchronous communication, there were less instances of code switching by both the teacher and the students. There were many more student-to-student messages and these messages were more complex in both syntax and content than comments in the classroom. In the classroom, students waited to be called on to speak, but in the CMC environment, they felt free to express their ideas at will. Beauvois found that the communication in the computer lab more closely resembled normal conversation because the teacher did not control turn-taking as they did in the classroom, and students were able to

[5] The Hawthorne effect refers to the treatment group demonstrating different results from the control group mainly due to the fact that they felt they received special treatment by participating in the study (Mertens 1998).

introduce their own relevant topics into the discussion. Beauvois concludes by stating that this study does not suggest that CMC should replace oral communication, but only that is an appropriate medium for students to "benefit more fully from the language learning process" because it bridges "the gap between oral and written communication" (p. 213).

In a study that compared face-to-face communication and online chatting between NSs and NNSs of English, Freiermuth (2001) found that the online setting was more conducive to communication. In order for L2 learners to succeed in cross-cultural communication, which is one of the goals of FL education, they need 1) knowledge of the subject matter, 2) language skills, 3) communication skills, 4) to know how to take advantage of opportunities to pursue their interests, 5) the ability to use and understand personality traits in the other culture, and 6) know how to complete their task (Brislin 1981). If L2 learners lack any of these traits, their communication with a NS could be impeded. In addition, if NNSs are unfamiliar with the rules of turn taking or questioning in a certain culture, Freiermuth points out that it would be much easier for a NS to become the leader of a conversation and control the dialogue in terms of turn number and length, leaving the NNSs little room to participate. As noted by Warschauer (1996) and Beauvois (1998), CMC has been shown to afford more equal turn taking and allows all subjects to participate in the conversation equally. These results were confirmed in Freiermuth's study (2001).

He found that NNSs contributed at least half of the input in the CMC environments, whereas in the spoken groups, a dominant NS contributed more than double the other members of the group in most cases. Freiermuth notes that CMC allows students to focus more on the task and the content of the message than how the message is delivered, which makes up for their lack of confidence speaking the FL. When students chat online, they have more time to think about and edit their responses and focus more on what they are producing rather than worrying about how to fit into the new group dynamic and overcome social barriers with NS.

In the final synchronous CMC study I discuss, Toyoda and Harrison (2002) analyzed the negotiation of meaning between L2 learners and NS of Japanese during chat conversations. The researchers divided the examples of negotiation that they found into categories of word, sentence, and discourse level. Negotiation about words included recognition of a new word, misunderstanding or misuse of a word, or a typing error. Within sentence negotiation were grammatical errors, inappropriate segmentation, and NS using abbreviated sentences. Finally, the discourse negotiation included sudden topic change, slow responses to questions, and intercultural communication gaps due to cultural differences. The authors noted that as the negotiation changed from the word level to the discourse level, resolving the misunderstanding became more complex. The higher the level of negotiation, the harder it was to tell if it had

been resolved. This led to questions about how much comprehensible input students received and how much modified output they were able to produce (Toyoda & Harrison 2002). From their results, Toyoda and Harrison suggest that FL instructors teach expressions for clarification and confirmation checks as well as communication strategies to both encourage students to negotiate meaning and provide them with the necessary tools to do it.

In summary, each of these studies found that synchronous communication offers students an environment of equal participation, allowing the shier or more anxious students the opportunity to participate more than they would in the classroom (Freiermuth 2001, Warschauer 1997). Students were also found to build a speech community within the chats and were able to scaffold and negotiate in order to increase their fluency in the target language, possibly even their oral fluency (Beauvois 1997, 1998). Since the chats are written, students tend to use more lexically and syntactically complex language and even discuss topics more thoroughly than they would in an oral conversation, yet the rapid interchanges make it similar to spoken language as well (Beauvois 1998). Asynchronous communication is another type of CMC that allows students to express their opinions freely and equally, but in this context they are able to communicate with a wider variety of people and have the time to think about their responses more carefully.

Asynchronous CMC

Asynchronous communication (e-mail or bulletin boards) easily facilitates long-distance exchanges because, due to the time difference, interlocutors are not able to engage in synchronous chats. With the Internet, long-distance exchanges are faster, free, and students can receive messages back within days or even hours instead of weeks if they were exchanging letters with a pen-pal. The opportunity to interact with peers from other cultures allows students to learn about other cultures and hopefully, their own culture as well. As Bakhtin points out, "It is only in the eyes of another culture that foreign culture reveals itself fully and profoundly . . . a meaning only reveals its depths once it has encountered and come into contact with another, foreign meaning" (1986, p. 7). Once students get to know aspects of another culture through the eyes of someone from that culture and are forced to discuss their own culture with the other person, they will view their culture in a more critical way and understand it on a deeper level. The following studies are examples of different ways to organize asynchronous exchanges depending on the goals of the task.

Schneider and von der Emde (2000) created a MOO in order to incorporate more culture into their classroom without sacrificing instruction in and about the TL. A MOO is a "shared text reality environment" (p. 18) computer program that can be accessed by anyone via the Internet. They have more capabilities than e-mails or synchronous chats because users can easily

express emotions through whispers or shouts and are able to construct and continually modify their own computer environments. In this course, students spent the first half of the semester learning about the MOO and had a grammar review. In the second half of the semester, they worked with students studying English in Münster to develop projects together. Students first created their own rooms within the MOO through text and then often met in those rooms to discuss their projects with their partners from Münster. As students used language to organize their space within the MOO, they also experienced the creation of a culture in the TL. Schneider and von der Emde found that the MOO allowed and encouraged students to use language in a meaningful way while facilitating cultural studies. First the MOO was a "strong democratic and inclusive learning environment" (p. 24) because everyone could participate in an environment they viewed as non-threatening and conducive to learning, which the authors argue changes their attitudes towards participation. The MOO also allows students to recognize the learning goals and the dynamics of the classroom without drawing students to notice them consciously. The authors observed that students found parallels between the classroom dynamics and the texts that they were reading.

Since students created their own TL-learning environments, they began to rely on themselves and each other for learning rather than the teacher. As students became more interested in the MOOs and German culture, they took responsibility for their own learning and for fulfilling their own personal learning

goals. Schneider and von der Emde conclude that the MOO allows students to become autonomous learners and that they become more involved in their own learning because they are more engaged in the learning and are able to set their own goals while working under the supervision of the teacher to achieve them. Using the MOOs significantly increased the students' use of the TL and creativity and, as they realized that they did not have to be completely grammatically correct in order to be understood by their Münster partners, students realized the importance of meaning, not just form. Schneider and von der Emde have illustrated that MOOs are a meaningful way to combine culture and the TL while students guide their own learning and goals.

In a pilot project in which German and Hungarian students communicated through e-mail and chats, researchers found that students were able to learn about the other culture through how their peers reacted in the e-mails and chats. Steinig et al (1998) organized an e-mail exchange between two classes, one in Germany and the other in Hungary in which the students discussed their reactions to a text about entering a train compartment that they were both reading. The way that people enter a room (train or chat), occupy a room, and leave the room is influenced by one's culture and the students were able to realize these differences through their e-mail and chat discussions. In addition, the researchers noticed differences between how the two groups wanted to discuss the text. While the Hungarian students wanted to make friends, the German students preferred

focusing on the texts and were frustrated when the Hungarians resisted discussing them. The cultural differences that the students learned during their exchanges, such as how people enter and occupy a room and how students discussed the text, would not have been possible to explain in the classroom. Through the e-mail and chat exchange, the students were able to communicate in the TL, use their language in a creative way in order to convey meaning, and learn about another culture through experiences instead of through what they read in a book.

Since the students communicated both through e-mail and synchronous chats, the authors were able to compare the two modes of communication. They found that the chat was more spontaneous than e-mail and more similar to face-to-face communication because students had less time to prepare their responses. They noticed that students' seemed to have less anxiety towards the chats because, since they were more similar to speaking, they were more informal and required less monitoring. The students could, however, control more of their utterances than they would have been able to speaking and did not worry about their spelling as much as they might have worried about their pronunciation. The characteristics of the e-mails were closer to formal writing and therefore maintained the discourse patterns of formal writing. In the chat room, while exchanges sometimes moved quickly for the NNSs, the spontaneity and opportunities for negotiation allowed by oral communication are combined with

the thoughtfulness and exactness of written discourse, whereas in the e-mails, the language tended more closely to resemble only writing.

Furstenburg et al.'s (2001) *Cultura* project was developed as a way to allow students to experience differences and similarities between French and American cultures using the Internet as their tool. Furstenburg et al. hoped to teach their students to learn to look at another culture through the eyes of that culture by viewing similar items from two different cultures side-by-side. The two groups of students, one of French from the US and one of English from France, analyzed similar materials from their respective cultures that were posted on the web, exchanged opinions on these materials in order to deepen their understandings of each others' cultures, and studied a wide variety of materials (films, texts, news media) in order to expand their cross-cultural analysis. There were several steps involved in the project in which students progressively became more and more aware of their own cultural beliefs and ideas, compared them with the responses of their foreign peers, and then discussed these differences in an asynchronous chat. Next, the students analyzed French and American opinion polls to understand societal issues on the level of the entire country, rather than only their partners' opinions. Finally, students examined French films and their American remake, American and French news articles on the same topics, and excerpts from texts in which the authors wrote about their own culture while

comparing it to their own. The students then discussed these texts in asynchronous chats.

The basis of this study was that culture cannot be condensed to a collection of facts about the target culture, but that it is an interactive process through which students build and rebuild their own understandings of the culture mediated by other students, foreign peers, and teachers. The researchers found that the asynchronous discussions focused on social, political, and cultural topics rather than more superficial topics. There were also instances in which a student might disagree with one of her classmates, which helped the students to understand the "relativity of points of view" (p. 70). As students tried to understand the target culture more fully, they also began to realize that they were viewing the other culture through the eyes of their own culture, which influenced their interpretations. As students began to understand the French culture more deeply, they sometimes changed how they felt about certain aspects of their own lives, as suggested by Bakhtin (1981) and they began to understand their own culture in a different manner. The exchange in *Cultura* also allowed students to practice many of the components of the Standards for Foreign Language Learning. They were writing in French (Communication) in order to learn about other cultures (Cultures) which provided them with more in depth information (Connections) about both their own and the French culture (Comparisons). It is

even possible that some students maintained the connections they made during the exchange after it was over (Communities).

Furstenburg et al. point out that the role of the teacher is an integral part of the *Cultura* project. The teacher must assist the students so that they do not misinterpret something they read or too quickly make generalizations about the other culture. The teacher should, on the other hand, "allow student thinking to drive lessons" (p. 80), ask open-ended questions, and allow time for students to construct their own knowledge about the target culture. The researchers concluded that the methodology of *Cultura* and taking advantage of CMC allowed students to discover aspects of culture with which they normally would not come into contact and even construct an insider's (emic) view of the target culture.

In another study on asynchronous communication centered on a text, Müller-Hartmann (2000) analyzed exchanges between English language classes in Germany and English and Social Studies classes in the United States and Canada. She focused mainly on the influence of the task on the interactive processes involved in the learning processes. The texts were young adult literary texts chosen because they seemed to lend themselves to intercultural discussions and, after an introductory phase in which students got to know each other, the students communicated once a week. The researcher found that the tasks that she chose allowed learners to learn more about their own personalities and their peers and

their culture. The students learned not only about the cultural identities of their partners, but also cultural facts as different topics came up during discussion of the text, such as alcoholism or history. Students also improved their interpretive skills as they were forced to interpret the text before responding to their partner and then had to interpret the e-mail that their partner sent back. As with most CMC tasks, both the teachers and the students found these tasks to be more learner-centered and based on autonomous learning. Students had to first develop a personal opinion about the texts and then decide how to communicate that to their partners. Müller-Hartmann concludes that tasks are instrumental in determining the results of an intercultural project and that the teachers must both closely monitor the learning process and integrate it into the context of classroom instruction at the same time.

In another study that demonstrated the learner-centered advantages of CMC, Leng et al. (1999) conducted an intercultural project between several different countries. They hoped to encourage students to work together to plan, research, and communicate about a project while working in a multinational context. They hoped that the collaborative learning would be enhanced by people from different cultures bringing together different ways to approach and solve a problem. The students chose their own topics to research with little assistance from their teachers and were to research independently using the Internet as a reference until they presented their results in the form of a web page. The

advantages were that students were organized and motivated, they were able to practice the TL in a meaningful way, and most students learned about teleworking and the Internet. The Internet proved to be appropriately multi-faceted for mediating the discussions between the students. They could communicate one-to-one, one-to-many and informally or formally focusing on work. Unfortunately, however, since the project was voluntary and the students received only a small academic credit for their efforts, the interactions between the team members were of varying quality. Some participated enthusiastically while others lost enthusiasm midway through the project. The authors concluded that the collaboration between the groups was beneficial to both their language proficiency and for learning how to work together. They recommend that teachers make a point to recognize students as individuals because each student brought something different to the project and to therefore judge them individually.

Leahy (2001) conducted a study in which her English NS law students exchanged e-mails with German NS law students for a semester. She found that both groups of students wrote 50% in the L1 and L2, they were both interested in their subjects and in sharing their knowledge about them, and each partner offered the other some error correction. Since English and German students approached the project differently, it helped students to understand some of their cultural differences, especially in regard to education. The German education focuses

more on critical analysis than the British system, so German students were more likely to try to evaluate and define the different legal approach in the two countries, while the British students focused more on the basic facts without critical reflection. In conclusion, Leahy remarks that the students acquired both language and content knowledge, which were the goals of the study, and they acquired this knowledge in the form of autonomous learning and peer-tutoring, which, she argues, led to deeper understandings of the legal subjects they were discussing.

In another cross-cultural study, Liaw and Johnson (2001) found that an e-mail exchange served as an ideal forum for students to learn about their cultural differences and achieve more cross-cultural understanding. There are three ways to acquire cultural knowledge in the FL classroom: 1) as a result of language instruction, 2) as knowledge or skills that can be objectified, or 3) as a meaning making process (Robinson-Stuart & Nocon 1996). Robinson-Stuart and Nocon argue that the third method is the best method for students to understand that culture is a living and changing entity. The most successful manner for students to engage in this meaning making process about culture is for them to communicate with members of the target culture. For this reason, Liaw and Johnson (2001) chose to have their pre-service ESL teachers correspond with nonnative English speakers from Taiwan so that they could develop cross-cultural

understanding, acquire methods to improve their communication with NNSs of English, and examine how CMC could enhance their future teaching.

The researchers analyzed the e-mails between NSs and NNSs of English and noted communication difficulties and how students dealt with them and categorized the cultural themes that students discussed. They found that most students talked about holidays, hometowns, school lives and school systems, family members and interpersonal relationships, and hobbies. During the exchange, students abandoned certain difficult cultural topics, scaffolded their partners' topics to progress from discussing general topics such as birthday to more culturally specific topics such as the Chinese zodiac, and "explored and shared their own cultural perceptions" (p. 11). The researchers concluded that the cross-cultural e-mail exchange allowed students to build their own cultural views of the target culture though interpersonal communication and showed them that sometimes it is cultural proficiency, not their language proficiency, that causes miscommunication.

In a final study that deals with the merits of asynchronous CMC, Lee (1997) used e-mails as one component in a course where she employed the Internet to integrate language and culture in her FL classroom. During the e-mail exchange with native Spanish speakers, American third-semester students were supposed to discuss readings related to Hispanic culture, ask questions, and gain assistance writing. The results were based on a survey and an interview at the end

of the project. Lee found that most students reacted positively to the exchange and the use of the Internet. The American students reported that their attitudes toward the Spanish NS and their culture improved, due to the newly gained appreciation for cross-cultural knowledge, as suggested by the author. Lee also reported that since her students were guiding their own learning during the Internet searches and e-mails, they because more engaged in the learning process and more motivated to learn about Hispanic culture.

The results of the asynchronous studies all reveal similar findings. The students were able to guide their own learning, which helped them to become more involved in and excited about the learning process (Leahy 200, Lee 1997, Müller-Hartmann 2000 and Schneider & von der Emde 2000). During autonomous long-term communication with other NNSs or NSs, students developed a cross-cultural appreciation and learned how to build meanings together with members of another culture. Through this meaning building, learners also experienced first-hand differences in cultures through how they worked together with their partners (Furstenburg et al. 2001, Leahy 2001, Liaw & Johnson 2001, Steinig et al. 1998). Finally, these studies found that because asynchronous communication resembles writing more than speaking, students' language in their e-mails involved more monitoring and their ideas were more creative and calculated than in face-to-face communication (Schneider & von der Emde 2000 and Steinig et al. 1998).

The studies discussed in these last two sections highlight the student-centered, student-guided learning opportunities within CMC in both a synchronous and asynchronous context. Through synchronous communication, students can negotiate topics with other classmates in a non-threatening environment where all students have the opportunity to contribute to the discussion at their own pace (Warschauer 1996). Asynchronous communication allows students to correspond in the TL with peers from other cultures and countries so that students have the opportunity to construct their own beliefs about the target culture from what they learn from their foreign partner and other materials in the target culture available on the WWW or from the FL teacher. In this manner, the responsibility of learning about culture shifts from the teacher to the students. Students, guided by the teacher, are given the tools to discover their own beliefs about the target culture. Taking advantage of the Internet to enhance FL learning will break down the walls of the FL classroom and lessen the responsibility of the FL teacher as the FL expert as students explore texts on the WWW and discuss the target culture in the TL with either other NSs or NNSs. For the reasons discussed above, CMC is employed in this study to provide students with similar advantages in the FL classroom and to investigate how students correspond and negotiate meaning with either NSs or NNSs.

NEGOTIATION OF MEANING

Introduction

Negotiation of meaning refers to the process in which interlocutors respond to an utterance they do not understand and provide clarification. Negotiation has been shown to be one way in which learners can improve their FL proficiency (Izumi 2000, Pica et al. 1987, Pica 1992, Polio & Gass 1998, Varonis & Gass 1985). Whether negotiating in order to understand an utterance or in order to be understood learners are forced to pay attention to both the input of their interlocutor and their own L2 output which in turn positively influences their acquisition (Pica et al 1987, Pica 1988, 1992, Swain 1985). While it is not the goal of this study to prove the benefits of negotiation of meaning but rather to study it in the context of an e-mail exchange between NNS-NS and NNS-NNS, the following discussion of the previous findings of studies involving negotiation of meaning between NNS-NS and NNS-NNS function as an overview of previous research on this topic rather than proof of the merits of negotiation of meaning.

NNS-NS Interaction

There have been various studies on communication between NNS-NS. The studies I review focus on the output of NSs when conversing with NNSs, how NSs react to NNSs' output, how interaction affects the exchange, and how producing output affects NNSs' language proficiency. It has been found that

because of the lack of shared background between the NSs and NNSs, there is a possibility of misunderstandings, and therefore negotiation (Varonis & Gass 1985). This negotiation is crucial to language learning (Long 1996) as the following studies will indicate.

In order to test the hypothesis that NNSs engage in negotiation with NSs due to their lack of shared linguistic, cultural, and social backgrounds, Varonis and Gass analyzed a conversation between a NS and a NNS (1985). In the conversation, a low-level English student called a TV repair shop in order to find out how much a new TV would cost. The basis of the misunderstanding was that the student called the wrong store in order to find out the answer to his question, which began the conversation in confusion. Varonis and Gass analyze the conversation in terms of belief space, "the participants' knowledge of each other's goals" (p. 336), of which the interlocutors shared little at the beginning of the conversation. While the NS continually changes her goals in order to agree more with those of the NNS, the NNS is not able to understand the NS's goals and change his accordingly; therefore they only agree on a shared goal (buying a new TV) at the very end of the 2.30 minute conversation. Varonis and Gass conclude from this conversation that if a NNS and NS do not share the same belief space and linguistic system in a conversation, communication will likely not run smoothly unless the one of the interlocutors asks questions when they reach a misunderstanding.

Long (1983) categorized the different types of interactional modification after conducting a study in which he compared NS-NS and NS-NNS conversations. He found that NSs modified both their speech and the interactional structure of their conversation for NNSs in order to keep misunderstandings to a minimum. For example, the length of utterances was shorter and the proportion of verbs in the present tense was higher in groups of NS-NNS. He divided their interactional structures into two categories – strategies for avoiding problems and tactics for repairing them. In conclusion, Long makes no claims that these interactional modifications ultimately benefit the acquisition of the TL, but expresses that there needs to be further research in order to determine how these modifications affect the rate and successfulness of SLA. The results of Pica et al's study (1987) discussed below explore this question further.

While Long found how NSs change their speech when interacting with NNSs, Gass and Varonis (1985) conducted a study in which they investigated why NSs change their speech for NNSs by looking at the variables of negotiation of meaning, quantity of speech, scope of repair, elaboration, and transparency. They found that higher-proficiency-level NNSs engaged in less negotiation of meaning and that NNSs who triggered many negotiations of meaning received less speech from their NS partner and more repair. In addition, if during the conversation, a NS perceived that the high-level NNS did not understand his

speech due to an indication of a lack of comprehension, the NS reevaluated the NNS proficiency level and altered his speech accordingly. However NSs did not seem to reevaluate low-level NNSs. Gass and Varonis conclude from this study that foreigner talk is not stagnant and changes according to how well the NS perceives the NNS can understand him and be understood.

In another study about NS output, Pica et al. (1987) explored the difference in NNS comprehension depending on whether the content of instructions was repeated and rephrased during interaction or whether the input was modified before the discussion and there were no opportunities for interaction with the NS who provided the input. From their study on low-intermediate ESL classes, they found that repeating input through interaction had a positive effect on comprehension. Comprehension was especially enhanced when the repetitions included confirmation and comprehension checks and clarification requests. Pica et al found that the grammatical complexity of the premodified input did not influence its comprehension. Instead of focusing solely on the output of the NS in reaction to the NNS, the study of Pica et al. considered the role of the interaction of both speakers in the quest for comprehension. This suggests that interaction, including comprehension checks, is more beneficial to L2 learning than preemptive NS modifications to avoid misunderstandings. The results of the above studies (Long 1983, Gass & Varonis 1985, and Pica 1987) on the output of NSs when conversing with NNSs informs my study in regard to how negotiation

might differ between NNS-NS and NNS-NNS groups and how NSs make their utterances understandable to their NNS interlocutors.

Pica (1992) and Izumi (2000) exemplify different results to a similar research question regarding how NSs react to NNSs mistakes. Pica (1992) asked groups of NS-NNS to complete two information-gap tasks, one jigsaw, and one opinion-exchange. In contrast to Long, she was more interested in the interlocutors' negotiation for comprehension rather than how the NSs adjusted their input since Pica had found in a previous study (Pica et al. 1989) that negotiation provides FL learners with structural and semantic information, feedback on their IL, and the chance to adjust their language to be better understood. In the 1992 study, Pica found that NNSs modified their IL when given a signal by a NS, mostly in regard to semantics. Pica concludes that texts of NS-NNS interaction help teachers to understand the FL learning process and using tasks where negotiation between NS-NNS is both the process involved in the conversation and goal of the conversation provide learners with an appropriate context for learning.

Several years later Izumi (2000) researched a similar aspect of NS-NNS conversations in order to test how NSs' reactions to NNSs' mistakes affect SLA. Izumi was mainly interested in whether conversational interaction is adequate enough to make language learning possible, specifically in reference to the influence of implicit negative feedback, correction, on the NNS' current and

future language use. Izumi chose information-gap tasks to facilitate her interactions because they cannot be completed without interaction and the tasks have a goal.

In her data analysis, Izumi found that NSs often ignored NNS mistakes rather than negotiating or restating them. When they did provide negative feedback, it was more often when the information dealt with location or identification rather than description, and they only seemed to pay attention to the information that was necessary for completion of the task and ignored the rest. The NNSs incorporated the recasts into their subsequent utterances in 25% of the utterances, which suggested that they were also more concerned about completing the task than attending to accuracy. From these data, Izumi concluded that "untutored, task-based settings may not be sufficient to drive IL development toward greater accuracy" (p. 317). She suggested that tasks that have meaning to the students and where focus on form is necessary to complete the task might be more beneficial to students. In the e-exchange, while negotiation of meaning is not necessary to complete the task, as in Pica's study (1992), negotiating in the e-mails could still enhance communication. Since the students are engaged in meaningful tasks, their attention to form, vocabulary, and discourse markers could increase (Izumi 2000).

Finally, there have been studies in regard to negotiation among NS-NNS, which focus on the comprehensible output of the NNSs and how it affects their

language learning. These studies were influenced by Swain's assertion that both comprehensible input and output (comprehending and producing the target language) are necessary for second language acquisition (1985) and sought to test this assertion in the context of NS-NNS conversations. In each study, the researchers found that interaction between the NS and NNS interlocutors helped the NS to better comprehend the NNS (Pica 1988, Pica et al. 1989, Polio & Gass 1998).

Pica (1988) analyzed how NNSs adjusted their interlanguage output, semantically and lexically among other ways, when NSs indicated a misunderstanding. She found that learners did indeed modify their output in order to make themselves understood which confirmed Swain's claim that having to explain oneself in the target language helps one match his interlanguage more closely with the target language norms. In addition, Pica showed that the NSs helped the NNSs by modifying their interlanguage for them, and that the amount of comprehensible input from the NSs had a significant impact on the accuracy of the NNSs' output. While Pica agrees that negotiation is appropriate for interlanguage modification, she questions whether it is optimal because NSs modified NNSs' output before giving NNSs the chance to attempt it on their own.

In Pica's next study (1996), which sought to answer the question whether negotiation of meaning is beneficial to L2 learners, she found that when NSs responded to NNSs' indications of misunderstanding, they adjusted their input to

make the relationships between form and meaning more transparent. When NNSs realized that NSs did not understand something, the NNSs adjusted their language in order to achieve a more target-like form of their interlanguage. With the feedback NNSs received from the NSs, they were able to further their knowledge about both the vocabulary and form of the target language and adjust their interlanguage accordingly. The current study also examines whether NS triggers influence NNSs to adjust their language semantically to encourage comprehension.

Polio and Gass (1998) repeated a 1994 study by Varonis and Gass in which they reconfirmed the hypothesis that interaction helps NSs comprehend NNSs. They found that students were most successful at increasing their comprehension when they had control over what they said rather than simply responding to a NS. They noticed that weaker students allowed NSs to take a strong leadership role in the conversation (offering or requesting information that had not been offered previously), which resulted in their receiving a lower score on the information-gap task than the stronger students who were more in control of the task. Because these stronger students had greater control over the task, they were also able to focus more on the content and form of their output, which in turn help to encourage comprehension between the NS and NNS partners. Since the students in the current study are able to select their own conversation topics, it

is expected that they will be able to maintain control over their contributions to the conversation.

In a study that focused on task-type, Pica et al. (1989) sought to discover how the task affected the amount of negotiation between NS-NNS and how the NS signal type (whether open-ended or a model to repeat) affected the NS' output. They found that the type of signal used by a NS did have a significant impact on the NNS' response to it regardless of the task. NSs requesting clarification rather than providing a model utterance to be repeated or confirmed produced the highest rate of output revision. In regard to the tasks, the information-gap task provided the best context for NS to indicate their need for clarification and for NNSs to respond accordingly, and the discussion task allowed for the most clarification requests, NNSs' output adjustment, and NNSs' syntactic modifications in general. The results of this study remind FL instructors of the importance of tasks and the interlocutors in a foreign language-learning context. Since it is not possible to incorporate information-gap tasks into the e-exchange, the open discussion in the e-mails could lead to less negotiation of meaning.

The above studies of NS-NNS interaction point out the benefits of FL learner communication with NS. NSs point out communication breakdowns, ask for explanations, and provide prompts for clarification, which positively affects NNSs' interlanguage. NNSs are able to focus on the structural and lexical aspects

of the target language produced by the NSs and of their own interlanguage to ultimately bring their interlanguage closer to the target language. The next studies will examine the benefits of communication between two NNSs instead of a NS and NNS.

NNS-NNS Interaction

The following studies examine negotiation of meaning among groups of NNSs, including NNSs from the same and different language backgrounds. Since most of the research on negotiation of meaning had been conducted on adult L2 learners in the second language environment (situations where learners are able to interact with NSs outside of the classroom), de Assis (1997) examined the negotiation of meaning in a foreign language (classroom) setting while learners completed three different task types (jigsaw, information gap, and opinion exchange). In her study, the foreign language setting was an EFL classroom in Brazil where all the students were native speakers of Brazilian Portuguese. De Assis found that there were fewer instances of negotiation among NNSs in the FL context than in the SL context and that most negotiation occurred when learners were completing a jigsaw or information gap task. She suggested that there was less negotiation among her students because they shared the same background and language and were familiar with each others' interlanguages. The jigsaw and information gap tasks encouraged more negotiation because they require an exchange of information in order to complete the task whereas information

exchange is not necessary to complete the opinion exchange. The results of this study indicate the importance of the task and setting of an activity for negotiation of meaning.

In another study that examined negotiation of meaning among FL learners, Foster (1998) investigated the differences in negotiation between dyads and groups. She found that dyads negotiated more regardless of the task type because it is harder to stay quiet when there are only two people in the group. As de Assis showed (1997), if students did not need to transfer information in order to complete the task, they engaged in less negotiation. In Foster's groups, the number of unanswered signals of incomprehension was higher, possibly because no one felt responsible for answering questions. Foster hypothesizes that students would rather keep the task moving and assume they understand rather than stop what they are doing to negotiate meaning. She concludes that negotiation of meaning only has hypothetical value to students if teachers do not construct tasks that require students to negotiate meaning in order to complete them.

One of the studies de Assis (1997) was referring to when she claimed that most studies on negotiation of meaning had been conducted in SL settings was a study by Varonis and Gass (1985) in which they compared conversations between NS-NS, NS-NNS, and NNS-NNS pairs to discover where negotiation of meaning was most prevalent. They found that there was more negotiation between NNS-NNS and that these types of groups are ideal for language acquisition. The more

involved the NNS were in the conversation, the more time and effort they spent working on negotiation. Two reasons they suggest account for this higher amount of negotiation are that NNSs do not lose as much face negotiating with other NNSs than they would negotiating with NSs, and NNSs share less of a common cultural and linguistic background, which leads more easily to communication breakdown. Even though NNSs and NSs also do not share the same background, the inequality (in terms of language) of the interlocutors inhibits negotiation.

In a later study that compared negotiation between NS-NNS and NNS-NNS, Pica et al (1996) found that interaction between L2 learners does not provide as much modified input and feedback as interaction with NSs. These results contradicted the findings of Varonis and Gass (1985) because they found that there was no difference in negotiation between NNS-NNS and NS-NNS. However these results are comparible to those of DeAssis (1997) because in this study both groups of NNSs also shared the same L1. De Assis argues that this accounts for the low amount of negotiation since the NNSs share the same linguistic and cultural background. The authors concluded that learners can provide limited modified input and output and provide simplified feedback. Even though the learners did not engage in as much negotiation as the NS-NNS dyads, they did seem successful at segmenting each other's utterances to show comprehensibility and model morphosyntax.

In a later study that compared interaction between NS-NNS and NNS-NNS, del Pilar and Mayo (2000) also noticed no differences between the two groups. In this study, the NNSs were advanced learners of English with Spanish as their L1 who conversed with NSs of English to complete two information-gap and two decision-making tasks. The researchers found that the advanced EFL learners were able to provide a richer source of grammatically correct modified input and feedback than the lower-level students in the study by Pica et al. (1996). They also found no significant difference between the responses given by NNSs to signals of either other NNSs or NSs. Although they did observe examples of negotiation to compare, they did not notice many examples of negotiation in general in either group, and even less among the NS-NNS dyads, however they did notice that the learners engaged in completion (finishing an interlocutor's utterance) and self-correction. This suggests that the high-level EFL learners were able to use their interlanguage to help each other and to correct themselves even though there were other grammatical errors that were ignored by the NNSs. Similar to DeAssis (1997) and Pica (1996), the fact that both NNSs spoke Spanish as their L1 likely affected their need for negotiation. Overall the authors conclude that interactions between NNSs provides as much modified input, feedback, and output as interactions between NS-NNS dyads and that teachers should develop tasks that encourage attention to form and vocabulary for NNSs.

The above studies have conflicting findings in regard to the amount of negotiation in NNS-NNS dyads versus NS-NNS dyads. From their conclusions, it appears that the task, the language level of the NNSs, and the L1 of the NNSs all influence the amount and type of negotiation NNSs engage in and the types of feedback and input they supply to their interlocutors. My study will examine similar questions in regard to NNS-NNS and NS-NNS interactions except in the context of a computer-mediated e-mail exchange and with NNSs who do not share the same L1.

CHAPTER SUMMARY

In order to evaluate and compare the interactions between NS-NNS and NNS-NNS in a semester-long e-mail exchange, I employ the theories of sociocultural theory, specifically scaffolding within the zone of proximal development, and findings of research on computer-mediated communication and negotiation of meaning. As suggested by Chapelle (1998), CMC is an appropriate setting to encourage negotiation of meaning because it can occur both in face-to-face conversations as well as in written communication over the computer. If we acknowledge that both modified input and output are necessary for acquisition (Pica et al. 1987, Pica 1992, Swain 1985, Varonis & Gass 1985), CMC tasks allow researchers to observe learners' interactions and notice the type of input they receive and how learners process the input to produce comprehensible output (Chapelle 1998). Guiding their own learning and topics in a computer-mediated

environment while using language as a tool to negotiate meanings will hopefully provide students with an enjoyable and rich environment in which to bring their interlanguage closer to the target language.

Chapter 3: Methodology

INTRODUCTION

As the previous chapter indicates, the benefits of scaffolding, negotiation of meaning, and the use of computer-mediated communication for foreign langauge learning have been suggested by many different studies (Donato 1994, Pica 1994, 1996, Warschauer 1998, 2000). These studies have examined negotiation of meaning in various real world and experimental environments as well as scaffolding in classroom contexts. There has, however, never been a study that compared the amount of scaffolding and negotiation between NNS-NNS and between NS-NNS dyads within the context of an e-mail exchange. Scaffolding allows students to work together within their zones of proximal development in order build new meanings, while negotiation of meaning that takes place either within or without the context of scaffolding allows students to test the comprehensibility of their interlanguage. As the review of literature showed, undertaken in a CMC context, this scaffolding and negotiation is learner-centered and learner led.

The present study has quasi-experimental[6] elements besides the qualitative analyses. It explores how students in both treatment groups scaffold their e-pals linguistically, negotiate meaning, and co-construct knowledge during the e-mail

exchange 1) in order to add to the existing knowledge about NS-NNS and NNS-NNS communication and 2) to expand the previous research foci to include the CMC context. In addition, students' attitudes towards the exchange are compared and analyzed statistically. With my findings, I examine whether there is a difference (in terms of ZPD and linguistic scaffolding and negotiation) between students corresponding with NNSs or NSs about various topics per e-mail. As was established in the literature review, many of the studies involving NS-NNS and NNS-NNS interaction have been conducted in an experimental environment or in a classroom where the NNSs share the same L1. I investigate, if by conducting this study in a classroom environment where students are corresponding with NNSs with an L1 other than English, the results might differ.

THE SUBJECTS

143 students enrolled in 8 sections of third and fourth semester German at the University of Texas at Austin took part in this study (3 fourth-semester classes and 5 third-semester classes). Participants had been studying German between 1-5 years, averaging 1.9 years. Students who had taken German for more than one year already had learned German in high school before coming to UT. Some students were taking German to complete FL requirements, while others were simply interested in the language; most students shared both objectives. The

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[6] This study is quasi-experimental because the groups who took part were intact groups, not randomly assigned groups.

students ranged from sophomores to seniors and their majors encompassed fields in both liberal arts and sciences. In a survey completed at the beginning of the semester, all students reported that they check e-mail at least once a week and most students claimed they checked e-mail 5-6 times per week. Most students also stated that they are confident computer users, use computers several times a week for their assignments, and think on-line communication (e-mail, chats) is a useful tool.

The e-pals, foreign e-mail partners who corresponded with the UT students, consisted of both native and nonnative speakers of German between the ages of 18-54, with an average age of 24. The native speakers (56 total) were from all areas of Germany. The nonnative speakers (62 total) came from various countries around the world including the Brazil, Czech Republic, Hong Kong, Hungary, India, Kazakstan, Lithuania, Russia, Sweden, Yugoslavia. Most of the e-pals were volunteers who learned about the e-mail exchange from either the *Goethe Institute* or from their university and committed to participating in the exchange from October 1 until December 3. The e-pals who were not volunteers were enlisted to participate in the exchange by their teachers, however each teacher differed in how she gave her students credit for writing the e-mails. It is possible that some of the student e-pals used the information from the e-mails in writing assignments or class projects, as I know one Czech class did. Although all of the foreign participants agreed to correspond with the UT German students

once a week, every week until December, this was not always the case. Several of the e-pals ceased e-mailing and some did not e-mail regularly every week, but others were reliable and replied, as promised, every week. Since many of the e-pals were volunteers and not members of a class in which they were required to e-mail every week as in previous studies (Fursteburg et al. 2001, Schneider & von der Emde 2000, Steinig et al. 1998) this lack of consistency had been anticipated.

CLASS ASSIGNMENTS DURING THE SEMESTER

The Beginning of the Semester

The first four weeks of the semester were devoted to an intensive grammar review, similar to Schneider and von der Emde's study (2000), in order to improve the students' grammatical competence before they were to correspond weekly with other speakers of German. During the fourth week of classes, students also received an introduction to *Blackboard*, the computer interface students used to complete out-of-class quizzes and to conduct 3 synchronous chats during the semester. During the fifth week of class, students were introduced to the textbook they used for readings throughout the rest of the semester. The text, *Was ist Deutsch* (Leblans et al. 2000), contains authentic[7] texts about various aspects of German culture, including readings that focus on minorities in Germany.

The discussions of the first texts were designed to encourage students to begin thinking about how to define culture and their own culture as they see it. After defining culture in general and American culture specifically for homework, students discussed in both English and the target language what they had written in groups of 3-4 in class. The goal of this task was for students to discover that their classmates do not necessarily have the same image of American culture, and that even among members of the same culture there are many differences in perception. Students made a list of similarities and differences for each group and these were compiled on the board for discussion. Next, students were given a list of terms to define: friend, acquaintance, patriotism, nationalism, citizenship, and home. These definitions were again listed on the blackboard in order to illustrate to students that although they are almost all from the same country and possibly from the same culture, they have different notions of how to define their culture and its various aspects. These words were chosen because each of these topics would come up in the texts students would be reading and are terms for which Americans and people from other countries often have different interpretations.

Goals of Early Semester Tasks

These tasks in the beginning of the semester served two purposes: 1) they were developed to encourage students to think consciously about their own culture and its variability before having to explain it to their e-pals, 2) and to help

[7] Texts written for an audience of native German speakers.

them put into perspective what they learned from their e-pals. For example, students should not think that just because one German e-pal stated that he enjoyed watching American movies on TV does not necessarily mean that all Germans do. Although on a much smaller scale, these tasks were similar to the first step of the *Cultura* project in which students (both French and American) were asked to complete questionnaires and surveys before corresponding with their French counterparts in order to give them a basis of discussion (Furstenburg et al 2001). In my study, however, only the American students completed the culture discussion because they were e-mailing mostly volunteers, it did not seem appropriate to give their e-pals an assignment before they began the exchange. Although UT students would not be able to see how their e-pals would have responded to similar questions, they could ask them directly in future e-mails how they define culture or other aspects of their own culture.

After reading several texts about culture and discussing how members of the same class differed and were similar in their stance towards culture, students were assigned to send the first e-mail to their e-pal before the sixth Monday of class. In this e-mail, students were encouraged to introduce themselves and describe how they define culture in general and more specifically American culture. Most students also asked their e-pals how they defined American culture and/or their own culture. This topic was designed to initiate discussion about the complexity of culture in general and to give students and e-pals a beginning point

to ponder the differences and similarities between their cultures. From this Monday until the end of the semester, students were assigned to send one e-mail per week to their e-pals. The format of the e-mails is discussed below.

E-mails

The first two topics and format of the e-mails were prescribed in order to encourage students to engage in cultural discussions and to ask their e-pals questions about their cultural beliefs. Each week, students completed pre-reading activities, read an authentic text in German, and participated in post-reading tasks, in order to help them think of ideas for e-mail topics. For the first two e-mails, students were required to describe what they had read the previous week in class, comment on it, and then ask their e-pals their opinion on the topic. This format was modeled on the studies of Furstenburg et al. (2001), Schneider and von der Emde (2001), and Steinig et al. (1998). During each of the exchanges in the above studies, students had a common discussion topic, whether a common text (Steinig et al 1998), a common MOO[8] (Schneider and von der Emde 2000), or a common website, plus surveys and questionnaires (Furstenburg et al. 2001). Due to the large numbers of participants in my study, it was impossible to enforce reading common texts or websites. I hoped, however, that by explaining and discussing the text they had recently read, UT students could initiate conversation

[8] MOO stands for "multi-user dungeon object oriented" and consists of role-playing games where participants can build their own on-line environments and then visit each other's "rooms."

and debate about that topic, even if their e-pals were unfamiliar with the specific text the students were discussing. This was, however, not the case. After reading two weeks of this e-mail format, students seemed confined in what topics they could discuss and epals were frustrated because they did not read the same texts and thus did not understand their partner's comments. In addition, since students were required to discuss a new topic each week according to the texts they had read, they abandoned previous topics and were not able to delve more deeply into the topics discussed the previous week in a coherent manner. They often ignored their partner's responses to their questions from the previous week because they were required to comment on the new topic of the week.

After the third week, the format of the e-mails was changed to allow students to discuss any topic they chose and to pursue issues with their e-pals over several weeks without having to switch to a new theme every week. This task design allowed students to explore one subject in more depth than when they had to switch topics each week. The only stipulation regarding the format of the e-mails was that students had to ask their partners questions in order to stimulate discussion. Students were reminded that they could still discuss subjects that came up during class or from the readings, but they could also focus on issues that interested them directly. To make sure that students did not run out of subject matter to chat about, they were also given a list of suggested (but not mandatory) discussion topics to consider using.

Other Assignments

In addition to the weekly e-mails, students in the fourth semester class wrote three essays during the semester and completed one project at the end of the semester. To bring together everything students learned during the semester, they were encouraged to incorporate the cultural topics discussed in class and in the texts with what they learned from their e-pals in their final oral presentation. In the third semester class, students wrote 2 text reactions during the semester and completed one essay at the end of the semester that integrated the text topics and their e-pals' responses. Both classes also participated in 3 synchronous chats with their classmates in order to discuss what they had learned from their e-pals. This sequence of events is outlined in the table below. In addition to providing a larger context to the e-mail tasks and helping the students to maintain a broader goal during the interactions, writing essays throughout the semester made the e-mail exchanges even more fundamental to the semester's coursework. For example, students not only had the goal of finding out information about their e-pals and e-pals' cultures for their own personal knowledge, but they were also expected to incorporate the newly acquired information into an essay in which they synthesized and processed the data from the e-mails in a new and different way in conjunction with cultural topics discussed in class. Students combined the knowledge they gained from the texts and the synchronous and asynchronous discussions to write an essay intertwining topics from all three. This gave the

students the opportunity to concentrate on a topic that interested them and to delve more deeply into their thoughts and opinions about that topic, and then construct those ideas in the context of an essay. The layout of the assignments is described in the chart below.

Table 3. E-mail Assignments during the semester

	Third-semester German	Fourth-semester German
E-mail 1	Introduce yourself and discuss "Was ist amerikanisch?" (What is American?)	Introduce yourself and discuss "Was ist amerikanisch?" (What is American?)
E-mail 2	Heimat (Home)	Minderheiten in den USA (Minorities in the USA)
E-mail 3	Nationalismus, Stolz auf dein Land (Nationalism, being proud of your country)	Deine Erfahrung mit verschiedenen Religionen in den USA (Your experience with different religions in the US)
E-mail 4	Staatsburgerschaft (Citizenship) **First on-line attitude survey.**	Unterschied zwischen Liebe und Toleranz und mitlieben und mitleben (Difference between love and tolerance and loving one another and living with one another) **First on-line attitude survey.**
E-mail 5	Open topic	Open topic
E-mail 6	Kulturelle Normen (cultural norms)	Der Einfluss von Computern in der Welt (The influence of computers in the world)
E-mail 7	Tag der Fall der Mauer (The day of the fall of the wall)	Der Erfolg der EU/der Euro (The success of the EU/the Euro)
E-mail 8	Thanksgiving – optional e-mail	Thanksgiving – optional e-mail
E-mail 9	Die Wende – (The change after the fall of the wall)	Die EU in Vergleich zu den USA (The EU in comparison to the US) **Second on-line attitude survey.**
E-mail 10	Wrap-up – say good-bye and decide on future communication **Second on-line attitude survey.**	Wrap-up – say good-bye and decide on future communication

RESEARCH QUESTIONS

In order to investigate both which group negotiated meaning and/or scaffolded more often, the pertaining research questions were addressed both quantitatively and qualitatively. Most of the survey questions were on a likert-type scale and were therefore analyzed quantitatively. The free response answers were categorized and analyzed quantitatively as well.

Table 4. Research Questions

	Quantitative questions	**Qualitative questions**
Negotiation of meaning (per e-mails)	1. Do the NNS-NNS dyads negotiate meaning more than the NNS–NS dyads? Hypothesis: Yes, the NNS-NNS groups will negotiate more than the NNS–NS dyads. (based on the results of Varonis & Gass 1985)	Do the two groups build and utilize negotiation of meaning differently? If yes, what purposes does their negotiation of meaning serve?
Topic, Lexical, Syntax Scaffolding (per e-mails)	2. Do the American students scaffold more linguistically with their German NS peers than with other non-native speakers of German? Hypothesis: Yes, they will scaffold more with German native speakers because they will view the Germans as linguistic experts and the other NNSs as fellow non-experts.	How do students scaffold the language of their interlocutors in terms of vocabulary, syntax and topic to improve their own comprehensibility in the e-mails? Do the types of linguistic scaffolding differ between the NNS-NNS and NNS-NS dyads?

ZPD Progression and Scaffolding (per e-mails)	3. Do the e-pals in the German-American dyads scaffold more content knowledge with each other than e-pals in the NNS-NNS dyads? Hypothesis: The American - German dyads will scaffold less content knowledge with each other than the American-NNS dyads because Germans would assume expert role and not allow their NNS e-pals to question and co-contribute to a discussion.	How do American students scaffold content knowledge from their e-pals to improve their understanding of various topics?
Attitudes (per survey)	4. Do American students with German e-pals have a more positive attitude towards the e-exchanges than the American students with other non-native German e-pals? Hypothesis: No, the two groups would have equally positive attitudes towards the e-exchanges	

In regard to research question one, Pica (1985) pointed out in her study of NS-NNS interactions that NNSs benefit from negotiation with NSs, both because they learn about language forms and because they are forced to make themselves more understandable. Gass (1987) found, however, that NNSs are likely to engage in more negotiation of meaning with other NNSs than NNSs and NSs do as they struggle to make themselves understood. This study, in part, will test the claim that interactions between NNSs and NSs consist of less negotiation than

interactions between NNSs, however this time in the context of an e-mail exchange.

With respect to research question two, previous studies that employ CMC as a tool to help FL students improve their cultural awareness focused mainly on what students discussed and learned from their discussions (Furstenburg et al. 2001 and Schneider & von der Emde 2000). This study analyzes how, through scaffolding topic, syntax, and vocabulary, students are able to expand their interlanguage to include the scaffolded syntax, topics, and vocabulary they learn from their e-pals. By repeating their partners' expressions, students are able to apply their newly learned vocabulary and syntax to their own contexts in order to incorporate it into their own interlanguage. By discussing topics that they have had few opportunities to develop in the FL classroom, students can to become more comfortable conversing about a wider range of topics. Their ability to discuss these new topics and how they scaffolded their e-pals' comments to reach higher levels of understandings was also examined under the category of scaffolding with the zone of proximal development.

The third research question examines how students discussed the differences and similarities between their cultures and daily lives in order to reach higher levels of understanding about each others lives and cultures. Rather than focusing on *what* students discussed, the third research question seeks to answer *how* they discussed the topics that were assigned and then later self-selected. This

analysis determined whether students are more likely to scaffold with a NNS or NS and examine whether the types of scaffolding differ between NNS-NNS and NS-NNS and, if so, how this affects students' progressions within their ZPDs. I will explore whether it is easier to build meaning with a NNS who shares one's same culture or with a NS because their ideas could potentially be so different and therefore offer more to discuss and negotiate.

In order to answer the final research question, the responses to the survey given at the end of the semester will be compared in order to assess which group enjoyed the exchange more and why. It is possible that the students interacting with German speakers enjoyed the exchange more because it seemed more relevant to their class or that students interacting with other learners of German felt more comfortable corresponding with someone else who understood the challenges of learning German.

By linking the ideas of CMC, negotiation of meaning, and sociocultural theory, I offer answers to questions about what kind of learning and negotiation of meaning occurs between nonnative groups of speakers and nonnative speakers interacting with native speakers, and then compare the findings of each of these groups. Based on my results, I suggest ways to incorporate culture-teaching into the foreign language classroom through the L2, ways to increase motivation for learning German, and ideas for improving methods of using the L2 in a meaningful authentic manner in order to improve students' fluency.

METHODS OF DATA COLLECTION AND ANALYSIS – E-MAILS AND SURVEYS

E-mails

The data used in the analysis consist of e-mails and two surveys. The e-mails were both the e-mails the American NNSs wrote to their foreign partners and the responses from their e-pals. Since the exchanges started on October 1 and ended December 3, each student should have sent and received 9 e-mails. The e-mails I chose to analyze in terms of scaffolding, negotiation, and topic/cultural discussions were only of those students who had sent and received at least 6 e-mails. Since most students engaged in about 6 exchanges, this amount of data was appropriate to be able to draw comparable patterns among the students and groups. Out of the 118 students who participated in the study, I was able to analyze 39 students' e-mails. Out of those 39 exchanges, 8 students exchanged 6 e-mails, 8 exchanged 7 e-mails, 13 exchanged 8 e-mails, 6 exchanged 9 e-mails, and 4 students exchanged 11 e-mails.

There are several reasons for this low number of 39 exchanges to analyze. After the first e-mail, several UT students did not hear back from their partners and eventually received new partners after waiting several weeks. Since these students began writing e-mails regularly later than October 1, they sometimes were not even able to send and receive 6 e-mails. In other cases, the e-pals stopped writing in the middle of the exchange for reasons unknown to the partner. Maybe the e-pal found the exchange not to be as interesting as she had hoped

because of the students' low level of proficiency or because of the topics discussed. Or perhaps she felt it was too much work to exchange e-mails every week. Some e-pals disappeared for several weeks and finally reappeared stating that they had been on vacation or swamped with schoolwork. Since the e-pals were all volunteers and were not receiving credit for this exchange, even though they had committed to the exchange, it was expected that some would drop out during the semester. On the American side, there were also UT students, who, even though writing e-mails was 10% of their grade, chose not to participate in the exchange.

Surveys

In order to assess the students' feelings and reactions towards the e-mail exchange, they completed two surveys during the semester. The first survey was given in the middle of the semester after the students had written four e-mails and the last survey was administered at the end of the semester on the same day the students sent their last e-mail. Both surveys were conducted on-line to make it easier for students to take the survey after they completed their chats, to insure the students that the surveys were anonymous, and to facilitate compiling the data. Questions on the survey dealt with both students' attitudes about the e-mail exchange, what they felt they had learned and about the course in general, including the texts used during the semester and the assignments. The 23

multiple-choice questions on the last survey can be divided into four categories: writing, culture, enjoyment, and negotiation. These categories were chosen in order to gather students' opinions about the exchange from as many angles as possible, not just to find out if they enjoyed e-mailing, but also how involved they felt in the exchange and what they felt they learned from it. At the end of the exchange, the foreign e-pals were also surveyed by e-mail to find out how they felt about the exchange and if they would be interested in participating in such an activity again.

DATA ANALYSIS

The analysis of the e-mails was guided by an inductivist methodology, which allowed the observations to guide and possibly generate the research questions in this study rather than the experiment only testing certain hypotheses (Hammersley & Atkinson 1983). Before analyzing the data, one of the main research goals was to determine how the amount of negotiation of meaning differed between the two e-mail groups. After reviewing the data, it became apparent that scaffolding was more frequent than negotiation and that its analysis could offer more new findings to the field of sociocultural theory. I therefore decided to add that categories to the data analysis.

During the analysis, each e-mail was evaluated individually and the findings from the survey of each e-mail were categorized in order to identify major trends and differences between the two groups (in terms of negotiation and

scaffolding). The focus of the project was on the process of e-mailing throughout the semester and students' interactional progress. The information from the surveys adds information about the students' feelings towards the e-mail tasks.

In order to answer each of the research questions, there were four different categories of assessment: negotiation of meaning, linguistic and ZPD scaffolding, and the survey. The e-mails were analyzed several times for evidence of negotiation of meaning, linguistic scaffolding; the instances of negotiation and scaffolding were then tallied and the examples of linguistic scaffolding were analyzed using a t-test in order to compare the means of each group. In order to find evidence of ZPD scaffolding, the instances of explanation and progression in the ZPD were counted in each e-mail. Students' attitudes about the exchange were measured from the answers provided on the end-of-the-semester survey (see appendix). Since the answers for each survey question were divided into five categories (strongly agree, agree, neutral, disagree, and strongly disagree), a chi-square test was chosen to test whether there was a significant difference between the answers of the two groups as it is the best statistical test for comparing the amounts of counts in different categories.

Negotiation of Meaning

In order to test the hypothesis that there would be more negotiation among the NNS-NNS group, I quantitatively measured the amount of negotiation of meaning using the coding method that Varonis and Gass employed in their 1985

study of negotiation of meaning among NNS-NNS face-to-face communication. In their study, negotiation of meaning had three parts: the trigger, which was the source of the misunderstanding, followed by an indicator (a sign that something said previously was not understood, such as an overt statement, no response, or an inappropriate response), and the response or resolution (a repetition of what was first said, a further explanation or rephrasing, or a simplification of the misunderstood phrase), and possibly a reaction to that response. Negotiation in asynchronous CMC follows the same pattern, except that each step is separated by the time between each e-mail. Below is an example of a resolved negotiation of meaning from the current study.

> Trigger - NS: Die Leute sind sehr unterschiedlich, es reicht von was gehen mich andere an; bis hin zu Verfechtern der multikulturellen Gesellschaft.
>
> Indicator - AS: Was bedeutet was gehen mich andere an? Ich verstand das nicht.
>
> Response/resolution - NS: "Was gehen mich andere an" bedeutet so viel wie I don't care about other people. Diese Einstellung ist hier leider sehr verbreitet.
>
> Reaction to response - AS: "Was gehen mich andere an" sagten ich und mein Freund wenn ich getrunken werde.
>
> ---
>
> Trigger - NS: The people are so different. It stretches from I don't care about other people to advocating the multicultural society.
>
> Indicator - AS: What does was gehen mich andere an mean? I didn't understand that.

Response/resolution - NS: "Was gehen mich andere an" means something like I don't care about other people. This mentality is unfortunately very common here.

Reaction to response - AS: My friends and I said "was gehen mich andere an" when we get drunk.

When scanning the e-mails for negotiation of meaning, I looked for and marked indicators first and then went back in the previous e-mails to find the trigger. Finally, I looked in the e-mails exchanged after the indicator e-mail to find the resolution and response if there was one. I kept a record of each example and tallied the examples for each group of students, the NNS group and the NS group in order to compare the total amounts. The qualitative analysis of the instances of negotiation of meaning will be discussed below.

After the instances of negotiation were found, they were qualitatively categorized according to who initiated and resolved the negotiation (the American student or the e-pal) and how often the negotiations were resolved. The subject of the examples were also divided into two categories: 1) vocabulary when one of the partners did not understand a word his partner used and asked for clarification and 2) content when one of the partners did not understand what his partner was saying. These results reveal if either group differed in the types of negotiation they initiated and if either partner initiated or resolved negotiation more often.

Linguistic Scaffolding

For the purposes of this study, I define linguistic scaffolding as instances in which students built on or repeated what the e-pal wrote (vocabulary, syntax, or topic) and in turn, furthered their knowledge or understanding of that vocabulary, syntax, or topic (Richards et al. 1997). If the students had not been involved in the e-mail exchange, they would not have had access to this information or have been able to construct the new knowledge without assistance. I hypothesized that students would scaffold more with NS e-pals than NNS e-pals because they would trust NS' linguistic knowledge of German more than that of the NNS'. In the data analysis, three types of linguistic scaffolding were coded: If students, for example, used the same word their e-pal used in a previous e-mail when discussing a similar topic or answering a question, I considered that to be an example of lexical scaffolding, perhaps resulting in the UT student learning a new word. Scaffolding was categorized as syntactic if students incorporated entire phrases from their e-pals' e-mails. Syntactic scaffolding could even result in the students' noticing, applying and possibly internalizing grammar that their partners used. The most common type of scaffolding was labeled as topic, when students continued discussion of a topic either they or their e-pal had initiated in earlier e-mails. Examples of each category are listed below with the scaffolded instances italiziced.

Lexical - German NS: Gibt es in den USA wirklich so viele Leute, die für den Einsatz von *Atomwaffen* in Afghanistan wären? Diese Entwicklung würde mir *Angst* machen.

American Student: Ich glaube, dass Afghanistan und bin Laden haben nicht *Atomwaffen*. Wenn sie *Atomwaffen* hätten, würden sie Atomkrieg nicht machen.

Syntax - German NS: Aber ich denke, *man kann nicht so genau sagen*, *was typisch für ein Land ist*, *denn alle Länder werden ja immer mit anderen Kulturen durchmischt.*

American Student: Ich gebe zu, dass *denn all Länder werden ja immer mit anderen Kulturen durchmischt*. Trotzdem, *mann kann sagen was typisch für ein Land ist*, glaube ich.

Topic – NNS: Meiner Meinung nach zeigt dieser Film viele Besonderheiten amerikanischer Mentalität. Das sind z.B. Zielstrebigkeit, Liebe zur Freiheit, Hartnäkigkeit.

American Student: Ich mag dass Amerikaneren normaleweise sehr optimisstisch, idealistisch, und pragmatisch sind (auch mag ich Kekse).

Lexical German NS: Are there really so many people in the US who are for the use of *nuclear weapons* in Afghanistan? This development would make me *worried*.

American Student: I think that Afghanistan and bin Laden don't have *nuclear weapons*. If they had *nuclear weapons*, they wouldn't make a nuclear war.

Syntax - German NS: But I think *one can't say exactly what is typical for a country because all countries are mixed with other cultures.*

American Student: I admit that *all countries are mixed with other countries. Nevertheless, I think one can say what is typical for a country*.

Topic – NNS: I think this film shows many particularities of the American mentality. Those are determination, love of freedom, persistence.

American Student: I like that Americans are normally very optimistic, idealistic, and pragmatic (I also like cookies).

Scaffolding within the Zone of Proximal Development

In addition to counting the instances of linguistic scaffolding, I also analyzed the examples of scaffolding within students' zones of proximal development. This type of scaffolding is defined as students working together with their e-pals in order to achieve a deeper understanding of a topic they discussed in the e-mails (Lantolf & Appel 1996). In order to trace students' progression to higher-order thinking during the e-mail discussions, I used Bloom's Taxonomy of Educational Objectives (1956). Students begin at the knowledge level with awareness of basic information about the other person or culture. As they begin to exchange more information with their e-pals, their knowledge changed to comprehension when they have a deeper understanding of the information. The next step is application, illustrated by the ability to interpret information into a new context. In the analysis stage, students are able to explain information to their partners. During the last two steps, synthesis and evaluation, students are collaborating with their e-pals to create new meanings and then assess those new meanings within their cultural standpoints. Although Bloom did not account for the importance of the dialogue in his taxonomy, sociocultural theory accounts for the role of dialogue as a necessary component of the

progression from knowledge to evaluation within the ZPD (DeGuerrero & Villamil 1994).

Table 5. Bloom's Taxonomy

Evaluation
Synthesis
Analysis
Application
Comprehension
Knowledge

Using Bloom's taxonomy to measure students' progression in the ZPD provided a framework in which to organize the various stages through which students progress within their ZPDs so that it could be determined how many students reached the synthesis or evaluation levels.

In order to assess which students reaching the synthesis or evaluation level of understanding about a topic, I first identified all the instances in which students explained a topic to their e-pals. From these instances of explanation, I noted how topics were repeated and expanded to allow students to explore the topics in novel ways that could lead to higher-order thinking. The higher-order thinking was marked by students' ability to synthesize and evaluate their newly acquired knowledge about various cultural topics.

Survey

The two Likert-type surveys administered twice during the semester contrast the two groups' attitudes towards the e-mail exchanges and the synchronous chats. The results of the final survey were compared using a chi-square test. Each question was compared individually in order to find significant differences between the two groups for individual questions. From these results, I was able to determine if either group felt they learned or enjoyed the exchange more or less than the other.

CHAPTER SUMMARY

This study employs both qualitative and quantitative methods of data analysis in order to identify possible differences between negotiation of meaning, linguistic scaffolding, scaffolding within the ZPD, and attitudes in an e-mail exchange between NNS-NNS and NNS-NS dyads. After the data analyses are completed, the results are interpreted in order to better understand what kind of learning takes place in an e-mail exchange with NS-NNS and NNS-NNS dyads.

While previous studies (Gass & Varonis 1985, Pica 1996, Varonis & Gass 1985) have suggested how learners negotiate meaning in order to make themselves better understood in face-to-face communication, the current findings offer insight into how the context of an e-mail exchange changes the dynamics of negotiation. Unlike negotiation, scaffolding has already been examined in the

context of CMC among language learning peers (Beauvois 1998, Warschauer 1999), however not between NNS-NS and NNS-NNS dyads in an e-mail exchange. The interpretation of the data from this study enhances the existing knowledge on scaffolding in CMC and expands the context to include e-mailing foreign partners. Bloom's Taxonomy has not yet been employed in order to analyze FL students' progression within their ZPDs, which allows the findings from this study to elucidate how students' higher level thinking and understanding progresses as they build meanings with a peer. Finally, although students' attitudes about CMC have been examined (Lee 1997), they have never been compared between NNS-NS and NNS-NNS dyads. After determining how students scaffold, both linguistically and to build new meanings, how they negotiate in the context of this e-mail exchange, in addition to how students enjoyed the exchange, I will be able to make suggestions to teachers about the types of similar tasks they can employ in their own classrooms to achieve their goals most efficiently and to researchers about further questions to explore about negotiation of meaning and scaffolding in the context of CMC.

Chapter 4: Results

The quantitative and qualitative data analyses of the e-mails and surveys sought to determine the differences between the exchanges in the two groups of e-pals: the output of American students who corresponded with native speakers of German and the American students who corresponded with other nonnative speakers of German. This chapter examines the data to identify whether one group engaged in more or less negotiation or linguistic and ZPD scaffolding, how their negotiation and scaffolding differed, and if either group enjoyed the exchange more. The structure of this section follows the outline provided by the four categories of research questions and the new foci brought about by the data analyses:

Negotiation of Meaning:

1. Do the NNS-NNS dyads negotiation meaning more than the NNS-NS dyads?

2. Do the two groups build and utilize negotiation of meaning differently? If yes, what purposes does their negotiation serve?

Topic, Lexical, and Syntax Scaffolding:

1. Do the American students scaffold more linguistically with their German NS peers than with other NNS of German?

2. How do students scaffold the language of their interlocutors in terms of vocabulary, syntax, and topic to improve their own comprehensibility? Do the types of linguistic scaffolding differ between the dyads?

ZPD Progression and Scaffolding:

1. Do the e-pals in the German-American dyads scaffold more content knowledge with each other than e-pals in the NNS-NNS dyads?

2. How do American students scaffold content knowledge from their e-pals to improve their understanding of various topics?

Attitudes:

1. Do American students with German e-pals have a more positive attitude towards the e-exchanges than the American students with other non-native German e-pals?

NEGOTIATION OF MEANING

1. Do the NNS-NNS dyads negotiation meaning more than the NNS-NS dyads?

2. Do the two groups build and utilize negotiation of meaning differently? If yes, what purposes does their negotiation serve?

Negotiation of meaning occurs, Pica (1992) states, "when participants in a conversation adjust their speech phonologically, lexically, and morphosyntactically in order to clarify a misunderstanding." Since negotiation of

meaning has been found to allow students to test their hypotheses of their interlanguage, it is thought that negotiation also aids language learning (Pica 1992). Negotiation of meaning is triggered by an indicator from the hearer that the speaker's message was unclear. It prompts the speaker to clarify her message by any number of strategies, such as repetition, paraphrasing, or translation (Varonis & Gass 1985). During negotiation, FL learners see where and when they are understood or misunderstood and make adjustments accordingly. Negotiation forces FL learners to focus both on the meaning of what they are saying and how they express it. Usually, the speaker is more concerned about conveying her message than conveying it with perfect grammar, however in many cases, in order to communicate a message, a certain level of proficiency is necessary. Because of this, the FL speaker is also forced to consider the structure of her language when communicating. Negotiation helps to show students where their interlanguage needs adjustment, ultimately leading to an improvement in their language proficiency.

In this study, I hypothesized that there would be more examples of negotiation of meaning in the NNS-NNS group based on the findings of Varonis and Gass (1985), however the data revealed that there was no difference between the groups in terms of the amount of negotiations of meaning. Originally, I hypothesized that since both groups of NNSs, the American students and their NNS e-pals, were learning German, they would feel more comfortable asking

each other questions when they did not understand something, as Gass and Varonis found. My study differed from their study, however, in two significant ways: 1) my study took place within a classroom environment and their study was experimental, and 2) their results came from face-to-face communication whereas mine were from an e-mail exchange. This likely accounted for the differences in results as described below.

Table 6. Overview of Negotiation of Meaning

Native Speaker Group	**Non-native Speaker Group**
19 examples (.11 per e-mail)	14 examples (.10 per e-mail)
11 vocabulary (58%)	7 vocabulary (50%)
8 content (42 %)	7 content (50%)
7 out of 8 (88%) NS initiated negotiation of meanings resolved by American student	4 out of 6 (67%) NNS initiated negotiation of meanings resolved by American student
4 out of 11 (36%) American student initiated negotiations of meaning resolved by NS	3 out of 8 (38%) American student initiated negotiation of meanings resolved by NNS

Out of 163 e-mails among the native speaker group, there were only 19 examples of negotiation of meaning - .11 negotiations per e-mail - and out of 137 e-mails among the NNS group[9], there were only 14 examples of negotiation of meaning - .10 negotiations per e-mail (see Table 1. for an overview)[10]. The

[9] NNS group refers to the NNS-NNS dyads and NS group refers to the NS-NNS dyads.
[10] Negotiation was noted and measured by a signal (indicator of non-understanding) in either the student's or e-pal's email.

negotiations were also coded according to the trigger: unknown vocabulary or content, and according to who initiated and who resolved the negotiation. For the NS group, there were 11 vocabulary and 8 content negotiations. Native speakers initiated 8 negotiations and all but one was resolved by the American student e-pal (88%). The students initiated 11 negotiations and only 4 were resolved by the native speaker e-pal (36%). These data indicate that the student e-pals were more reliable at resolving negotiation and answering questions in the NS group. The NNS group had 7 vocabulary and 7 content negotiations. Out of the 6 negotiations initiated by the NNS, the student e-pals resolved 4 (67%) and out of the 8 negotiations initiated by students, the NNS only resolved 3 (38%). Also in the NNS group, the students were more likely to resolve the negotiation. These data suggest that the American students were more concerned about being understood than their e-pals. Other studies have also shown that NSs try to keep misunderstandings to a minimum by altering their speech or ignoring mistakes or ambiguities that are not necessary for communication (Izumi 2000, Gass & Varonis 1985, Long 1983). The students' attention to being understood could lead to their interlanguage coming closer to the target language (Pica 1988, 1996). Pica found that learners modified their output in regard to vocabulary and grammar according to native speaker output in order to be better understood. While high-level NNSs or NSs may have thought they were helping their American partners by avoiding misunderstandings, inititating negotiation could

have had a greater effect on the students' language acquisition. This should be examine in future research.

Negotiations about Vocabulary

Native-Nonnative Speaker Group

On first glance it seems that the students corresponding with German NSs might have had more questions about vocabulary (11) than the students corresponding with NNSs (7) because the NS e-pals used more complex vocabulary than the NNSs. However, almost half of the vocabulary negotiation (5 out of 12) was triggered by the American e-pals; the American students wrote something that their partner did not understand. Therefore the American and German e-pals asked almost the same amount of questions about vocabulary misunderstandings. These negotiations were triggered by American students who used English words that they expected their e-pal to know, such as *Dorm* or *Greenback*. In other examples, students looked up an English word in the dictionary and used the wrong German word or misused a German word, such as *Glatzköpfe* as a literal translation of Skinheads[11]. The student-initiated negotiations about vocabulary focused mainly on the meaning of German words with which they were not familiar. In most cases, the words were slang or idioms

[11] Since *Glatze* in German means bald head and *Kopf* means head, it seems this student made up her own word for Skinhead by looking up each part of the word separately. Germans use the English word Skinhead.

or in a context the students did not recognize so that they could not look them up in a dictionary.

Examples of NS initiated vocabulary negotiation

The following categories, as proposed by Varonis and Gass (1985), were recognized in the examples of negotiation of meaning in the current data and are coded by font for identification. As in the examples refers to American student.

Trigger
Indicator
Resolution
Reaction to Resolution

AS: Im Dorm natürlich darf man Tiere nicht haben[12].

NNS: Du hast jetzt schon viele Mal vom "Dorm" geschrieben. Ich kenne dieses Wort nicht, obwohl ich glaube, dass es sich dabei um einen Teil Deines Universitätsgebäudes handelt.

AS: "Dorm" ist wo man an die Universität wohnt. Zwei Schüler wohnen in jedem Dormzimmer. UT hat das großte Dorm im Welt. Es heißt Jester und 2000 Schüler wohnen da.

AS: In the dorm one is not allowed to have animals.

NNS: You have written about "Dorm" several times. I don't know this word, although I think that it has to do with a part of one of the university buildings.

AS: Dorm is where one lives at the university. Two students live in every dorm room. UT has the biggest dorm in the world. It is called Jester and 2000 students live there.

[12] All of the quotes are verbatim as written by the American students and their e-pals. The German has not been changed to make it more grammatically correct.

In this case, it appears that the student assumed his e-pal would know what a *dorm* is, even though it is an English lexical item and is an abbreviation. From this exchange, the student learned that Germans do not necessarily know the word *dorm* and adjusted his interlanguage accordingly, while gaining the experience of explaining what exactly a dorm is.

> AS: Wenn man in Amerika gereist ist, normalerweise hat man keine Dollars gesammelt? Aber ich weiß nur ein paar Europaer. Haben deine Freunden Dollars gesammelt? Was haben Sie an "the Greenback" gedacht?
>
> NS: "The Greenback"? Was ist das????
>
> AS: The Greenback ist die Dollar. Es tut mir leid, ich war nicht so klar.

> AS: When one travels in America, does one normally collect dollars? But I know only a few Europeans. Have your friends collected dollars? What did they think about the "Greenback?"
>
> NS: "The Greenback?" What is that????
>
> AS: The Greenback is the dollar. Sorry, I wasn't very clear.

This example is similar to the previous one. The student used a slang term for the dollar and expected her e-pal to understand because she wrote the word in the context of talking about American money.

> AS: Denn war ich ein Spielleiter für die Nachricht im Fernsehen.
>
> NS: Wie meinst du das mit Spielleiter? Müsst ihr in euerem Deutschkurs zu gewissen Themen einen Dialog führen?

AS: Ich war ein Produzent einer Fernsehsender. Ich schriebte, edierte, und verwalte eine Nachrichtensendung. Wir machen nicht etwas als das in unsere Deutschkurs. Ist das mehr klar?

AS: Then I was a program leader for the news in TV.

NS: How do you mean that with program leader? Do you have to lead a dialog about a certain topic in your German class?

AS: I was a producer of a television program. I wrote, edited, and managed a news program. We don't do something like that in our German class. Is that more clear?

This student was trying to say he was an anchorman for a news program, but did not know how to express it. He had to describe his job in another way after his e-pal asked for clarification and provided more details in case *Produzent* was still not clear. Unfortunately his e-pal did not respond to the question *Ist das mehr klar?* So that the American student would know for sure that he was understood. On the other hand, a lack of further request for information could also signal that the e-pal did understand and the misunderstanding was resolved. The next examples are also vocabulary misunderstandings, however, the negotiations were initiated by American students.

Examples of student-initiated vocabulary negotiation

> NS: Heute werd ich mich sehr kurz fassen da ich in einer Stunde arbeiten (in einem Café) beginnen muss. Deshalb hab ich nur noch einige Minuten Zeit, alle deine Fragen werde ich in meiner nächsten SMS morgen oder übermorgen beantworten.
>
> AS: Was bedeutet "SMS"?

> NS: Today I won't write much because I have to start work (in a café) in an hour. Because of that I only have a few minutes. I'll answer all your questions in my next SMS tomorrow or the day after tomorrow.
>
> AS: What does "SMS" mean?

In this example the student has the opportunity to learn both a new vocabulary word and about an aspect of German culture, but her e-pal does not respond to her question. Many Germans with cell phones use SMS, typing out messages on cell phones, because it is cheaper than calling. This initiation was left unresolved.

> NS: Die Leute sind sehr unterschiedlich, er reicht von was gehen mich andere an; bis hin zu Verfechtern der multikulturellen Gesellschaft.
>
> AS: Was bedeutet was gehen mich andere an? Ich verstand das nicht.
>
> NS: "Was gehen mich andere an" bedeutet so viel wie I don't care about other people. Diese Einstellung ist hier leider sehr verbreitet.
>
> AS: "Was gehen mich andere an" sagten ich und mein Freund wenn ich getrunken werde.

> NS: The people are so different. It stretches from I don't care about other people to advocating the multicultural society.

AS: What does was gehen mich andere an mean? I didn't understand that.

NS: "Was gehen mich andere an" means something like I don't care about other people. This mentality is unfortunately very common here.

AS: My friends and I said "was gehen mich andere an" when we get drunk.

This NS used an idiom with which the student was not familiar. From this exchange, the student was able to learn a new German idiom in context and then apply it to his own new context.

Nonnative-Nonnative Speaker Group

The NNS group had 7 examples of negotiation of meaning about vocabulary and 4 were triggered by the American e-pals. All but one was resolved. None of these examples, in contrast to the NS e-pals, were due to the American e-pals using English words instead of German words. Perhaps the American students with NNS e-pals did not assume that their partners would understand English words as their peers with German e-pals did. This could be one reason for the fewer number of vocabulary negotiations among NNSs. The American e-pal triggered vocabulary negotiations were due to the American e-pals misusing or misspelling a German word or in one case, the NNS e-pal did not know the German word. The vocabulary negotiations that were triggered by NNS (3 examples), were due to the NNSs using a foreign word, misspelling a German word, or the American student not knowing the German word. None of these

negotiations were resolved. Perhaps the NNS did not know how to resolve the misunderstanding or simply chose not to answer either because they did not want to or they did not want to create further misunderstandings similar to the NSs in Long's study (1983). The following examples illustrate negotiation of meaning about vocabulary.

Examples of NNS-initiated vocabulary negotiation

> AS: Meine Meinung ist, dass Klischees über Nationalitäten sehr dumm sind.
>
> NNS: Ich verstehe nicht was bedeutet Klischees. Kannst du erklären?
>
> AS: Klischees war das Wort, das mein Professor hat mir gegeben. Stereotyp ist ein besser Wort.

> AS: My opinion is that clichés about nationalities are dumb.
>
> NNS: I don't understand what clichés means. Can you explain?
>
> AS: Clichés was the word my professor gave me. Stereotype is a better word.

The NNS in this example does not know the German word Klischee, so the American student is forced to express it in a different way, which helps to expand the NNS e-pal's vocabulary and give the American student practice explaining his point by paraphrasing, a useful communication strategy (Kaspar et al. 1994).

> AS: Ich will zu Graduirte Schule gehen, so kann ich der Zweite Weltkrieg studieren. Ich muss Deutsch lernen, um für mir zu Graduirteschule gehen zu tun.

NNS: Was heißt das “die Graduirte Schule”?

AS: Ich weiß noch nicht die Namen von meine Graduirte Schule, weil ich für es noch nicht haben aufgetragt.

AS: I want to go to graduate school so I can study World War II. I have to learn German in order to go to graduate school.

NNS: What does “graduate school” mean?

AS: I don’t know the name of my graduate school because I haven’t applied yet.

Since there is not a literal translation for graduate school in German, this American student invented his own word and hoped it would be understood. Although the NNS was asking what *Graduirte Schule* means, his partner interpreted *was heißt* as a question asking for the name of his graduate school and responded he did not know yet where he would go. This negotiation could have lead to further clarification steps if the NNS probed further about the meaning of the word instead of the abandoning the topic, either because he thought his partner could not define *Graduirte Schule* or because he wanted to prevent anymore misunderstandings (Long 1983). In this example, the American student did not learn that *Graduirte Schule* was not a word because he thought he answered his partner’s question, especially after receiving no response to that topic. Following are examples of vocabulary negotiations initiated by American students.

Examples of student-initiated vocabulary negotiation

> NNS: Heute hat meine Freundin Geburtstagsfeier. Wir haben ihr eine grosse Marionette von Hexe gekauft, weil sie eine kleine Hexe ist. Ich freue mich schon.
>
> AS: Was ist eine Marionette von Hexe?

> NNS: Today my friend is having a birthday party. We bought a big witch marionette because she is a little witch. I'm looking forward to it.
>
> AS: What is a Marionette von Hexe (witch marionette)?

> NNS: Wir wollen aber in unsere Bezirkstadt Hradec Králové fahren.
>
> AS: Bezirkstadt Hradec Králové … du hast diese Sachen gesagt … aber was ist es?

> NNS: We want to drive to our county seat Hradec Kralove.
>
> AS: County seat Hradec Kralove . . . You said this . . . but what is it?

In both of these examples, the American e-pal does not understand the word his partner who is simply relaying events about her daily life, but in neither case does the e-pal respond to the question. It is possible that they do not want to pursue these topics further because they regard them as irrelevant to the topics discussed in the exchange. Whether or not the American students understand every detail of their e-pals' daily lives will not impede the conversation. In addition, the personal nature of the exchanges could lose their significance during a week's delay.

Although data is somewhat limited, the preliminary hypothesis of these vocabulary negotiations is that students with NNS partners were less likely to use English words or literal translations if they did not know the word in German and seemed to be more likely to look up the German word or circumlocute to get their point across. The students with German partners assumed that their German partners knew enough English to understand English words without literal German translations. In both cases of American triggered negotiation, the American e-pals were forced to clarify their message; this process likely positively affected their language development (Pica 1988, 1996). They learned which words can be understood by a German or NNS and how to circumlocute what was not understood. In the case of the NS triggered negotiation, American students had the opportunity to learn German idioms in context, but unfortunately the NNS triggered negotiations were not resolved which did not help the American students. In addition to the vocabulary negotiations, there were also several examples of negotiation about content.

Negotiations about Content

Native-Nonnative Speaker Group

There were almost even amounts of negotiation about content in the NS (8 examples) and NNS groups (7 examples). In the native speaker groups, the American students triggered only 3 out of the 8 negotiations (38%). The triggers

were cultural topics for which the German NS did not seem to have background knowledge. One example concerned the meaning of racquetball, while others were about music groups. Among the German triggers, there was only one cultural question; the others had to do with understanding the meaning of the message. In contrast to the misunderstandings about vocabulary, these triggers pertained to more cultural topics. The first examples are of negotiation initiated by native speakers.

NS-initiated content negotiation

AS: Ich spiele heute Racquetball aber ich verliere.

NS: Was ist eigentlich genau Racquetball?

AS: Racquetball ist ein Sport, waren zwei Leute einsteigen in einen Raum mit vier Waenden und schlagen ein Ball weg den Waenden mit einander. Es klingt nicht Spass aber es macht viel Spass.

NS: Ach ja, wie du Racketball beschrieben hast, scheint es sich um "Squash" zu handeln, was zwar anstrengend ist, aber tatsächlich viel Spass macht.

AS: I play racquetball today but I lose.

NS: What is racquetball exactly?

AS: Racquetball is a sport where two people get in a room with four walls and hit a ball against the walls with each other. Es doesn't sound like fun but it is fun.

NS: Oh yeah, how you described racquetball seem to be like "squash," which is strenuous but indeed fun.

In this exchange, the student was able to practice explaining Racquetball and also learned a cultural fact: that Germans do not play racquetball, but squash. The following example deals with a NS' lack of background knowledge about music groups.

AS: Wie findest du Pavement oder Belle and Sebastian?

NS: Du hast mich gefragt, ob ich "Pavement" oder "Belle and Sebastian" kenne, nein. Diese Bands sind bei uns (noch) nicht bekannt. Welche Musikrichtung ist das?

AS: Pavement, Belle and Sebastian, und Sonic Youth sind alternativ wie Nirvana und The Red Hot Chili Peppers. Sie sind auch "indie" oder independent. Das bedeutet unabhängig, aber es soll unabhängig die grosse Musikindustrie bedeuten.

AS: What do you think of Pavement or Belle and Sebastian?

NS: You asked me if I know "Pavement" or Belle and Sebastian." These bands aren't known by us (yet). What style of music is that?

AS: Pavement, Belle and Sebastian, and Sonic Youth are alternative like Nirvana and The Red Hot Chili Peppers. They are also "idie" or independent. That means independent, but it should mean independent of the big music industry.

After the NS e-pal asks about the bands, the American e-pal has the chance to explain the style of music they play, the idiom for that in the US ("indie") and finally what that means. She, thus, provides her partner with cultural information about the American music industry and practices explaining that in German. In both of the above examples, the American students triggered to explain a topic, racquetball or the music industry, in the target language in order to make their

output more understandable to their e-pals. In doing so, they were forced to focus on both form and meaning in order to be understood (Pica 1988, 1992, 1996). In the following examples, the German e-pals are triggering negotiation rather than indicating misunderstanding as in the previous examples.

Student-initiated content negotiation

In the following examples, the American student understood his e-pal's vocabulary, but still could not understand the meaning of the utterance.

> NS: Ist mir ganz recht, weil meine Freundin noch dieses Jahr zu mir zieht und ich bei ihr gesehen habe, was die kleinen Engel so alles anrichten können. Magst Du Tiere oder hast Du sogar welche?
>
> AS: Ich versteht nicht, wer die kleinen "Engel" ist. Kannst du mir erklären? Meine Eltern haben einen Fisch. . .
>
> NS: Die Engel sind die beiden kleinen Katzen meiner Freundin, von denen ich Dir das letzte mal geschreiben habe. Ich habe sie so genannt, weil sie sich ganz anders verhalten haben in der Wohnung. Du hättest mal die Tapeten an den Wänden sehen sollen. Aber Katzen sind nun mal so.

> NS: It's fine with me because my girlfriend is moving in with me this year and I have seen what kind of damage the little angels can do. Do you like animals or do you have any?
>
> AS: I don't understand who the little "angel" is. Can you explain. My parents have a fish.
>
> NS: The angels are my girlfriends two little cats about whom I wrote last time. I named them that because they acted completely different in the apartment. You should have seen the wallpaper on the walls. But that's just how cats are.

In this example, the student could figure out the meaning of the words – the small angels – but could not figure out what they meant in the context of what his partner wrote. Although he could answer the second question about having pets, he did not connect that the *Engel* were his e-pal's girlfriend's pets. There is a similar misunderstanding in the next example, however it is not resolved.

> NS: In unserer Zeitung stand es, dass das Flugzeug, das bei Pittsburg abstürzte, eigentlich in Harrisburg/PA auf ein sehr grosses Atomkraftwerk stürzen sollte.
>
> AS: Ich kenne nicht die Flugzeugabturs darüber du sprichst. Warum ist die Flugzeug abgestürzt?

> NS: Our paper said that the plane that crashed near Pittsburg was supposed to crash at a big nuclear plant in Harrisburg, PA.
>
> AS: I don't know which plane crash you're talking about. Why did the plane crash?

The American student does not understand that his partner is referring to one of the airplanes of September 11. The e-pal did not provide enough of a context for the student to figure out that she was talking about the events of September 11, and unfortunately this misunderstanding is not resolved, possibly because the NS thought it would be too complicated to settle without more confusion (Long 1983).

Nonnative-Nonnative Speaker Group

Out of the NNS, there were only 7 examples of negotiation of meaning about content; 2 of those were triggered by American students, 5 by the NNS partners. In all cases, the NNS e-pals did not understand what their interlocutor was saying, whereas in NS examples, the questions dealt with the cultural content of the utterance. This is evident in the following examples.

NNS-initiated content negotiation

> AS: Der Projekt ist eine Bibliothek in einer kleiner Statt in der naehe von Austin.
>
> NNS: Das Projekt soll realisiert werden? Das finde ich toll!
>
> AS: Das Projekt wird nicht bauen sein. Aber ich werde ein Modell bauen mit dem Computer und ein Architekt wird die Bibliothek sehen.

> AS: The project is a library in a small city near Austin.
>
> NNS: The project is supposed to be built. That is great!!
>
> AS: The project won't be built. But I will build a model with the computer and an architect will see the library.

The American student is discussing a project for his architecture class and his NNS partner does not understand if the project is just for his class or if it will actually be built, so in his answer the American student is forced to explain himself more fully, which could result in his interlanguage matching more closely

with the target language (Pica 1988, 1992, 1996) or his learning to be clearer in communicating.

> AS: Auch, bist du liberal oder konservativ?
>
> NNS: Was deine Frage betrifft, ob ich konservativ oder liberal bin, so ist es für mich schwer sie zu beantworten. Was meinst du darunter?

> AS: Also, are you liberal or conservative?
>
> NNS: Your question, if I am liberal or conservative, is hard for me to answer. What do you mean by that?

This American student's partner cannot answer completely if he is liberal or conservative and wants his partner to be more specific with the question. If the student had resolved this negotiation, he would have likely learned that different cultures have different ideas of liberal and conservative. In the next examples, the student misunderstands her e-pal due to problems with vocabulary.

Student-initiated vocabulary negotiation

> NNS: Unsere Gruppe hat den Studenten des 1.Studienjahres die Präsentation der Duden Wörterbücher durchgeführt.
>
> AS: Ist es richtig, dass du mit einer Gruppe der Studenten präsentiert anderen Studenten Wörterbücher in Form von einer Mauer?

> NNS: Our group led the first-year students' presentation of the Duden dictionary.
>
> AS: Is it right that you and a group of students presented dictionaries in the form of a wall to other students?

This NNS partner is explaining what she did with her class in school and instead of just saying he did not understand, her American partner tries to paraphrase what she said to show her understanding. Unfortunately she did not respond with a confirmation of his understanding, but he did practice summarizing, a necessary skill in checking for confirmation (Pica 1987).

> NNS: Mein Mann ist in der Armee. Jetzt er ist in Jammu und Kashmir (India). Weiß das oder nicht? Wenn du möchtest das wissen, du kannst fragen.
>
> AS: Ich weiß nicht wo Jammu ist. Ist Jammu ein Stadt in Kashmir?
>
> NNS: Jammu ist ein Teil von Kashmir. Jammu und Kashmir sind eine Stadt. Die beide macht der Stadt.

> NNS: My husband is in the army. Now he is in Jammu and Kashmir (India). Do you know that or not? If you would like to know, you can ask.
>
> AS: I don't know where Jammu is. Is Jammu a city in Kashmir?
>
> NNS: Jammu is a part of Kashmir. Jammu and Kashmir are a city. Both make the city.

In this example, the American student has the chance to expand his knowledge of Indian geography. He may have been more likely to ask for clarification since his e-pal encouraged him to ask if he did not understand. The e-pal seemed eager to explain more about her country. Thus, an expectation of non-understanding lead to the other interlocutor's willingness to negotiate.

Through negotiating meaning about content, the American students in both the NNS and NS groups learned about the cultures of the other countries and the students who responded to the triggers also gained practice explaining an aspect of their own culture. Both the American and NNS partners in the NNS group had questions that related to culture and meaning. However, in the NS group, the NS triggered questions about meaning, and the American partners triggered questions about culture. Although there were not more instances of negotiation between the NNS-NNS, both partners initiated questions about culture, whereas in the NS group, only the NSs initiated negotiation in regard to cultural questions.

Because of the small amount of examples of negotiation of meaning that was found in this study, these results are in no way conclusive. One reason why there might have been less negotiation among NNSs than in the findings of Varonis and Gass (1985) is that the proficiency of some of the NNSs of German was higher than their American counterparts so that they were closer in proficiency to native speakers than nonnative speakers.

These findings are also comparable to Brooks' results (1992) when he investigated patterns of student interaction in student-student dyads in a Spanish conversation course to find out which communicative functions students could produce. Brooks' suspicion that students in the FL classroom did not have access to all of the discourse patterns they needed in order to have a conversation in the

FL, such as turn taking and topic negotiation, was confirmed when he found that the teacher controlled when the students talked, their topic for discussion, and how long they talked. Because of this, the students did not have to initiate or close their conversations or even decide what to talk about. Since students were never required to negotiate a topic, when they did encounter misunderstandings, they stopped talking instead of attempting to negotiate understanding. Although many students equate their difficulties in speaking with a lack of grammar or vocabulary, Brooks concluded that the problem is actually that students do not have the discourse strategies necessary to have a conversation and that learning the discourse strategies of a language is just as important as learning the linguistic forms of the language.

The results also suggest that e-mail is not an environment that encourages negotiation since neither speaker is constrained to answer the other's questions. When corresponding through e-mail, it is easier to abandon or shift topic than in face-to-face interactions. In face-to-face communication it would seem rude if someone ignored a question, but in an e-mail exchange, it is more acceptable. Grice's cooperative principle (1975) does not seem to apply in e-mail. Grice states that "they [our talk exchanges] are characteristically, to some degree at least, cooperative efforts; and each participant recognizes in them, to some extent, a common purpose or set of purposes, or at least a mutually accepted direction. . . At each stage, some possible conversational moves would be excluded as

conversationally unsuitable." In the e-mail exchanges, the e-pals were still moving in a "mutually accepted direction," however this direction was more loosely defined that it might have been in a face-to-face conversation. Although the e-mail exchange was still a "cooperative effort," since both interlocutors were involved in the conversation and topic development, if either e-pal did not respond to an indicator of misunderstanding, this behavior would not be as "conversationally unsuitable" as it would be in a face-to-face environment. It is common, and possibly expected or accepted, to ignore certain topics in an e-mail. In the case of this study especially, there was not always a "common purpose" of the e-mails. Since the American students did not have a choice whether to participate or not, and many of the e-pals were volunteers, each entered the task with different expectations and goals. This likely affected how they approached their role in the exchange and how the resolved negotiation and triggered misunderstanding (Coughlan & Duff 1996 and Lantolf & Appel 1996,)

TOPIC, LEXICAL, AND SYNTAX SCAFFOLDING

1. Do the American students scaffold more linguistically with their German NS peers than with other NNS of German?

2. How do students scaffold the language of their interlocutors in terms of vocabulary, syntax, and topic to improve their own comprehensibility? Do the types of linguistic scaffolding differ between the dyads?

In order to answer the second category of research questions, linguistic scaffolding of vocabulary, syntax, and topic was examined. Linguistic scaffolding was noted whenever students repeated a word, the sentence structure, or the topic that their partner wrote (Richards et al 1997). The instances of linguistic scaffolding illustrate the opportunities students had to learn and apply new vocabulary and syntax through the e-mail exchange. Through scaffolding their epals' topics, students practiced the discourse function of topic building, which was much more common than vocabulary and syntax scaffolding. The first examples that will be discussed are of linguistic scaffolding.

Linguistic Scaffolding

There was no difference between the two groups in terms of linguistic scaffolding. Among the students with NS partners, there were 65 instances of vocabulary scaffolding, 20 examples of syntax scaffolding, and 297 cases of topic scaffolding. Students with NNS partners also engaged in topic scaffolding much more than vocabulary and syntax with 280 examples of topic scaffolding and only 49 examples of vocabulary and 11 examples of syntax scaffolding. While students had no problem continuing a topic begun by their e-pal, they were not likely to quote their e-pal directly when discussing the similar topic. It was expected that the NNS partners would scaffold vocabulary and syntax less

because they might have trusted their partners' language less than the students with NS partners, however this was not the case.

Table 7. Overview of Linguistic Scaffolding

	Students with Native Speaker E-pals	Students with Non-native Speaker E-pals
Syntax	20	11
Vocabulary	65	49
Topic	297	280

NS-NNS Examples of Lexical, Syntax, and Topic Scaffolding

In the following examples, students incorporate their partners' vocabulary, syntax, and topics into their messages in order to develop and explain their own opinions and reports about the established topics. In these examples, students not only repeat lexical items or syntactic units, but also build on what their e-pals write in order to contribute to and expand the conversation within their own new contexts that they develop. Since students are guiding their own conversations and initiating topics in which they are interested, they are more involved in the conversation and in using the vocabulary necessary to participate in the conversation. This happens less often in the FL classroom, because students' topics are restrained by the textbook and course curriculum. In this e-mail exchange, students were able to guide their own topics as is illustrated below.

The scaffolded phrases and words are italicized and the scaffolded topics are coded according to font.

> NS: Es gab jetzt die ersten *militärischen Erfolge* in Afghanistan. Die wichtige Stadt Mazar-I-Shraif soll in die Hände der Nordallianz gefallen sein. Glaubst du wirklich daran, dass dieser *Krieg* schnell zu gewinnen ist? Wird man Bin Laden fassen? Gibt es in den USA wirklich so viele Leute, die für den Einsatz von *Atomwaffen* in Afghanistan wären? Diese Entwicklung würde mir *Angst* machen.
>
> AS: Ich glaube, dass die *Krieg* ist lang und dauert über eine Jahre. Aber es ist zu langsam für Amerikaneren. Sie interessieren sich nicht auf die *Krieg* jeden Tag. Und die Regierung sagt nur bisschen über die *militärischen Erfolgen* in Afghanistan. Die Amerikaner möchten immer viele Information über die Regierung. Journalister sind wütend an der Regierung, weil sie wenig über die *Krieg* wissen. Viele Leute haben *Angst* darüber. Ich glaube, dass Afghanistan und bin Laden haben nicht *Atomwaffen*. Wenn sie *Atomwaffen* hätten, würden sie Atomkrieg nicht machen.
>
> NS: Was *gibt es* Neues in Afghanistan: ach ja, die Nordalliaz hat es ja nun mit Hilfe eurer Bombardements und des überraschend plötzlichen Rückzugs der Taliban geschafft das halbe Land zu erobern. Ich habe eine solche Entwicklung bis vor 2 Tagen nicht für möglich gehalten. Im Fernsehen haben sie Leute in Kabul gezeigt, die froh waren sich den *Bart* wieder rasieren und zu Musik tanzen zu können. . . Was hältst Du davon? Ist das der Anfang vom Ende der Taliban oder beginnt jetzt erst eigentlich der Krieg? Ein Partisanenkrieg in den Bergen, der viel schwerer zu gewinnen ist.
>
> Der Krieg in Afghanistan hat große innenpolitische Auswirkungen auf Deutschland. Unser Bundeskanzler wird heute im Parlament die *Vertrauensfrage* stellen. Er macht das Fortbestehen seiner Regierung von der Frage abhängig, wie das Parlament über den Einsatz deutscher Soldaten in Afghanistan entscheidet. Wir Deutschen tun uns ja traditionell schwer in dieser Frage. *Viele Politiker sind immer noch der Meinung, dass deutsche Soldaten nicht an Einsätzen im Ausland teilnehmen sollen. Die Begründung liegt in der historischen Schuld Deutschlands am 2. Weltkrieg. Ich finde das völlig falsch. Die Zeiten haben sich geändert, Deutschland muß auch Verantwortung übernehmen. Ein Problem ist*

aber, dass wir immer noch die Wehrpflicht haben und keine Berufsarmee wie zum Beispiel die USA. . .

AS: Letzte einige Wochen hat ich kein Zeit, die Zeitung zu lesen oder fernzusehen. Also, weiß ich nicht, was jetzt *gibts*. Aber ich glaube, dass es ist zu früh, glücklich zu sein. Amerikaner fühlen gut darüber. Ich glaube, dass Bush kämpft die Krieg mit Umfragen. Er muss auch einen Propaganda Krieg kämpfen. Viele Moslems wissen nur was andere ihn erklären werden. Sie wissen nicht, was Amerika wirklich ist. Für sie sind wir nur der große Satan. Das ist aber falsch. Aber viele Amerikaner denken auch das alle "Middle Easterners" sind Moslems oder alle Moslems haben *Bärte*.

Wie stellt die *Vertrauensfrage*? Ist Schröder der Bundeskanzler? Oder ist es Präsident? Ich hatte es vergessen. Ich glaube auch dass es schwer für Deutschland ist. *Viele Leute leben in der Vergangenheit und denken immer über Nazis. Das ist auch in Amerika, wenn Leute denken immer über den Civil-Krieg und rassismus. Der "Confederate" Fahne ist Kulture für große Probleme in die südlichen Staaten. In große Städten haben wir wenig Rassismus aber in kleine Städten fand mann Rassismus.* In Amerika wünschen die Meisten Krieg. Immer an Universitäten fand man Pro-Peace Rally. Viele Professoren und Schüler sind ganz anti-Krieg. Es ist bisschen merkwürdig. In Austin und UT sind viele gegen Krieg aber an Fernseher sehe ich die ganze Land für Krieg.

NS: Ich denke, dass es zur Zeit in den USA schwer ist, ein Gegner des Krieges zu sein. . .

Unser Bundeskanzler Schröder hat die Vertrauensfrage selbst an das Parlament gestellt und gewonnen. . . Wie hast du das mit der Auszählung in Florida erlebt?

Das Problem Rassismus ist in Deutschland auch häufig in kleinen Städten anzutreffen.

NS: Recently there were the first *military successes* in Afghanistan. The important city Mazar-I-Shraif has supposedly fallen into the hands of the Northern Alliance. Do you really think that this *war* can be won quickly? Will Bin Laden be caught? Are there really so many people in the US who are for the use of *nuclear weapons* in Afghanistan? This development would make me *worried*.

AS: I think that the *war* is long and lasts over a year. But it is too slow for Americans. They aren't interested in the war every day. And the government says only a little about the *military successes* in Afghanistan. The Americans would always like a lot of information about the government. Journalists are furious at the government because they know little about the *war*. Many people are worried about it. I think that Afghanistan and bin Laden don't have *nuclear weapons*. If they had *nuclear weapons*, they wouldn't make a nuclear war.

NS: What *is going on* in Afghanistan now: Oh yeah, the Northern Alliance managed to conquer half the country with the help of your bombing and the surprising sudden retreat of the Taliban. Two days ago I didn't think such a development would have been possible. On TV they showed people in Kabul who were happy to shave their *beards* and dance to music. . . What do you think about that? Is that the beginning of the end of the Taliban or is the war really starting now? A partisan war in the mountains, that's much harder to win.

The war in Afghanistan has big political effects on Germany. Our chancellor is asking for a *vote of confidence* today. He is making the continuation of his government dependent on the question of how the Parliament decides about the deployment of German soldiers in Afghanistan. We Germans have problems with this question. *Many politicians think that German soldiers should not take part in deployment in foreign countries. The reason for this lies in the historical guilt of Germany from World War II. I think that is totally wrong. The times have changed, Germany must also have responsibility. One problem is that we still have compulsory military service and no career army like the US.*

AS: In the last few weeks I haven't had time to read the paper or watch TV. So I don't know *what's going on*. But I think that it's too early to be happy. Americans feel good about it. I think that Bush is fighting the war with public opinion polls. He also has to fight a propaganda war. Many Moslems only know what others explain. They don't know what America really is. For them we are the big Satan. That is wrong though. But many Americans think that all Middle Easterners are Moslems or all Moslems have *beards*.

How is the vote of confidence? Is Schröder the chancellor? Or is he president? I had forgotten. I also think that it is hard for Germany. *Many people live in the past and always think about Nazis. It's like that in America too when people think about the Civil War and racism. The*

Confederate flag is culture for big problems in the southern states. In big cities we have little racism but in small cities one found racism. In America most people want war. On the university one finds pro-peace rally. Many professors and students are completely against war. It is a little strange. In Austin and UT many people are against war but an TV I see the whole country for war.

NS: I think that it is hard to be an opponent to the war in the US right now.
Our chancellor Schröder asked for the vote of confidence himself and won. . . . How did you find the count in Florida?
The problem of racism is also common in small cities in Germany.

The above discussion begins as a conversation about the war in Afghanistan, but as each partner contributed more to the discussion, several other topics were generated and expanded. Each new topic is marked in a different color: the war, nuclear weapons, the political ramifications of the war, *Germany and the US's war history which leads to racism*, and the American reaction to the war. As a new topic is introduced, the e-pals respond to it and offer their own opinions or experiences in reference to that topic. In most cases, the e-pal relates the topic to his own culture and explains his perspective as it is related to American or German culture. Using the above example we can examine how, when a new topic is introduced, the former topic does not necessarily end, rather the new topic is added as another topic to discuss in addition to the first topic. For example, the e-pals continue to discuss the war in addition to relaying their opinions about racism and the effects of the war on politics. The first topic is about the war in Afghanistan. The fourth-semester German student responds with his opinion about how long the war will last and adds a more personal response

about what Americans think about the war and how the media is reporting it. The German e-pal mirrors this more personal response by including how the war has been affecting German politics with his general comments about the war. This discussion also incorporates a historical reference to explain Germans' feelings about their army being sent to Afghanistan. The student replies to his e-pals' historical reference to the Nazi period and adds his own American historical allusion to the civil war, which includes a reference to racism. In the final example from the native speaker e-pal, he continues the discussion about Gerhard Schröder and racism and introduces a new topic to discuss – the US elections. During the discussion, the student is also able to learn new vocabulary from his e-pal by integrating it into his own discussion and context. The above example illustrates how students are able to integrate new vocabulary into their interlanguage and guide their conversation topics in a natural way through the e-mail exchange while finding similarities and differences between the two cultures.

In the next example, the new vocabulary word is also new cultural information. They had been discussing traveling which lead to the reason that the NS e-pal went on the trip – his *Jugendweihe* present. In addition to learning the word *Jugendweihe*, the student learns about the entire tradition of *Jugendweihe*. He then reframes it within his own cultural background and understanding by explaining that he still acts like a child because he never had a *Jugendweihe*.

NS: Die Reise war ein Geschenk zur *Jugendweihe*. Die *Jugendweihe* ist ein Fest in Deutschland. Es ist sozusagen der Zeitpunkt, an dem die Kinder zu Jugendlichen (14 Jahre alt) werden

AS: Ich hat kein *Jugendweihe*. Vielleicht das erklärt, warum ich jetzt wie ein Kind bin.

NS: The trip was a present for *Jugendweihe*. *Jugendweihe* is a party in Germany. It is so to say the time when children become teenagers (14 years old).

AS: I didn't have a *Jugendweihe*. Maybe that explains why am like a child now.

In the following example, a simple comment about a test leads to a discussion of books. After the NS e-pal wrote about the book on which she is having a test, her student e-pal sympathized with her about reading boring books and relayed her experience reading a boring book in school. During this discussion, the American student also learned a different word for test – *Klausur*

NS: Ich schreibe am Freitag eine *Deutschklausur*. "*Klausur*" ist ein Wort für eine grosse Arbeit, ein Examen sozusagen. Das *Buch* über das wir schreiben mag ich nicht. Es ist langweilig. Es wurde im Mittelalter geschrieben und handelt von einem Bauernsohn, Helmbrecht, der ein Raubritter werden will.

AS: Wie war es mit deiner *Deutschklausur*? Tut mir Leid, dass das *Buch* langweilig war. Das ist immer schlecht, langweiliche *Bücher* zu studieren. Meine Klasse las letztes Jahr Heart of Darkness und ich fand es furchtbar. Eingehend war es interessant, aber ich will Plot und Bedeutung zusammen haben, nicht nur Bedeutung.

NS: I am taking a *German test* on Friday. "*Klausur*" is a word for a big assignment, an exam so to say. I don't like the book that we're writing about. It is boring. It was written in the middle ages and is about a farmer son, Helmbrecht, who wants to be a robber-knight.

AS: How was it with the *German test*? I'm sorry that the book was boring. That is always bad to study boring books. My class read Heart of Darkness last year and I found it horrible. At the beginning it was interesting, but I want plot and meaning together, not only meaning.

In the next discussion about culture, the student repeats what her e-pal says to make a point. She agrees with her, but then adds to what her e-pal said about countries having specific characteristics. In this example, similar to the vocabulary example with *Klausur* above, the student expands what her e-pal says to support her own opinion about culture.

NS: Aber ich denke, *man kann nicht so genau sagen*, *was typisch für ein Land ist*, *denn alle Länder werden ja immer mit anderen Kulturen durchmischt.*

AS: Ich gebe zu, dass *denn all Länder werden ja immer mit anderen Kulturen durchmischt*. Trotzdem, *mann kann sagen was typisch für ein Land ist*, glaube ich. Der Berliner Maurer ist typische für Berlin, zum Beispiel (sogar wenn Touristen aus anderes Landern in der Maurer auf eine Fremdsprache schreiben). Die "Love Parade" ist auch typisch aus Berlin zum Beispiel. Was findest du?

NS: An die Sachen, die Du als typisch für Berlin aufgezählt hast, habe ich gar nicht gedacht. Die sind für mich so normal oder bzw. wie die Mauer so lange her, dass ich gar nicht daran gedacht habe, dass man das als typisch bezeichnen könnte. Es ist sehr interessant, wie andere das sehen. . Was findest Du denn typisch für die USA und Brasilien?

NS: But I think *one can't say exactly what is typical for a country because all countries are mixed with other cultures.*

> AS: I admit that *all countries are mixed with other countries. Nevertheless, I think one can say what is typical for a country*. The Berlin wall is typical for Berlin, for example (especially when tourists from other countries write on the wall a foreign language). The "Love Parade" is also typical for Berlin, for example. What do you think?
>
> NS: I hadn't thought of the things that you listed as typical for Berlin. They are so normal for me or rather since the wal has been here so long, I didn't even think of what one notes as typical. It is very interesting how other see that . . . What do you think is typical for the US and Brazil?

After the American student points out what she considers to be typical for Berlin, the NS e-pal responds that she had never thought of what her American partner highlights as typical for Berlin and that it is interesting to see how others see one's city. The NS e-pal is then interested to hear what her partner considers typical for the US. In the safe environment of an e-mail exchange, e-pals are able to explore their stereotypes of the other country and adjust their former ideas where necessary. On the other hand, each partner is able to experience how someone from another country views his/her country and/or culture. Similar results were found in the NNS exchanges.

NNS-NNS Examples of Vocabulary, Syntax, and Topic Scaffolding

The below discussion is similar to the longer example from the NS-NNS group. As each partner introduces a new topic, the previous topic is not necessarily abandoned, but expanded to include the new topic.

> NNS: Die Kultur unseres Landes ist sehr reich und alt. Ich meine, *dass Russland und die USA sehr aenlich sind*: beide Länder sind *multikulturell*. Aber was Russland anbetrifft, so gefallen mir unsere

Volkslieder, alte Sitten, und Bräuche sehr. Ausserdem mag ich russische Küche.

Ich kann nicht amerikanische Kultur eindeutig einschätzen. Aber ich habe einige amerikanische Filme gern, z.B. "Gone with the Wind." Meiner Meinung nach zeigt dieser Film viele Besonderheiten amerikanischer Mentalität. Das sind z.B. Zielstrebigkeit, Liebe zur Freiheit, Hartnäkigkeit.

AS: *Ich mag dass Amerikaneren normaleweise sehr optimisstisch, idealistisch, und pragmatisch sind (auch mag ich Kekse).* Ich weiss über Russländisch Kultur nur was ich habe gelesen. Ich denke dass Russland viel gut Tradition hat. Auch mag ich Bücher von Tolstoi und Dostojevski lesen.

Ich denke auch, *dass Amerika und Russland änlich sind* weil sie *multikulturell* sind. Aber es gibt eine Differenz. Fast jede Amerikanisch Familie wohnt erst zweihundred Jahren hier. Alle die Menschen wissen dass sie einwanderern sind. Es gibt nur ein bisschen konkret Geschichte. Zum Beispiel es gibt wenige historische Stätte. Amerikanisch Tradition ist jung aber sie ist aus viele alte Traditionen. In Europa und Russland wissen fast alle dass sie wohnen wo seine Familie immer gewohnen hat. Die Kultur ist konkret. Es gibt viele historische Stätte. Man weist in Russland oder Europa was seine Heimat ist.

NNS: Es war interessant zu lesen, was du über russische Literatur, insbesondere über Tolstoj und Dostoewskij geschrieben hast. Es war zu erwarten. Aber meiner Meinung nach, lebt unser Land schon nicht so und nicht nach solchen Prinzipien, wie es in ihren Büchern dargestellt ist. . . Wir haben z.B. andere Bedingungen des Lebens, wir wissen mehr über andere Kulturen und Tradizionen, und das ist wunderbar. . . *Ich kann ahnen, dass Sie in Amerika auch gar anders leben, wie es in "Gone with the Wind" geschildert ist. Aber manchmal stellen wir uns Amerika vor, wie es in diesem schönen Buch steht.*

AS: Ich denke dass russische Leute eine schwere Veränderung machen mussten. Jetzt ist sie nicht fertig. Weil es zu viele Veränderungen im Russland gibt, habe Amerikaneren wenige Meinungen über die neue Russland. Fast jede Woche gibt es mehr Nachrichten über Russland. . . Wenige Amerikaner ich meine dass es eine klar Idee über Russland nicht bald geben wird. Leider kommt wenige russische Kultur nach Amerika.

Ich würde gern wissen wie Leben in Russland ist? Zum Beispiel wie ist russische Schule? *In Amerika geht man schon dreizehn Jahre nach Schule, und danach studiert man bei einer Universität. . .*

NNS: Ich meine, dass russisches System der Ausbildung ziemlich gut ist . . .

AS: *In USA studiert man bei der Uni nur vier Jahren . . .*

NNS: The culture of our country is very rich and old. I think that Russia and the US are very similar: both countries are multicultural. But what relates to Russia, I really like our folk songs, old customs, and traditions. Other than that I like Russian food.

I can't really judge American culture. But I like a few American movies, for example "Gone with the Wind." I think this film shows many particularities of the American mentality. Those are determination, love of freedom, persistence.

AS: *I like that Americans are normally very optimistic, idealistic, and pragmatic (I also like cookies).* I know only about Russian culture what I have read. I think tha Russia has many good traditions. I also like to read Tolstoi's and Dostojevski's books.

I also think that America and Russia are similar because they are multicultural. But there is a difference. Almost every American family only lives here 200 years. All of the people know that they are immigrants. There is only a little concrete history. For example there are few historical cities. American tradition is young but it is also from many old traditions. In Europe and Russia almost everyone knows that they live where they families always lived. The culture is concrete. There are many historical cities. One knows in Russia or Europe where his home is.

NNS: It was interesting to read what you wrote about Russian literature especially about Tolsoj and Dostoewskij. It was to be expected. But in my opinion our country doesn't live according to these principles that are described in the books. . . For example we have other conditions of life, we know more about other cultures and traditions, and that is wonderful. . . . *I can imagine, that you live completely differently in America than is portrayed in "Gone with the Wind." But sometimes we imagine America like it is portrayed in this pretty book.*

AS: I think that the Russian people must have made a hard change. Now it is not finished. Because there are so many changes in Russia, Americans have few opinions about the new Russia. Almost every week there is more news about Russia. . . I think that it won't give many Americans a clear idea of Russia very soon. Unfortunately little culture comes to America.

I would like to know about life in Russia. For example, how is Russian school? *In America one goes to school for 13 years and then one studies at a university.*

NNS: I think that the Russian education system is pretty good. . . .

AS: *In the USA one studies at the university for only 4 years.*

In this example, the interlocutors begin discussing what their own cultures are to them (Russian and *American*), how they see the partner's culture through literature, film, and media, and then each compares the other's culture to his. When the NNS begins his discussion of Russia, he begins by comparing Russia with the US and points out that they are similar because they are both multicultural. After describing the Russian culture, he uses three adjectives to describe his perspective of American culture, which he gained from the film *Gone with the Wind*. His American partner mirrors his e-mail by providing three additional adjectives to describe Americans and then explains that his view of Russia comes from what he has read, mainly Tolstoy and Dostojevski. They both establish that their views of the other country come from fiction. In the second section of the students' e-mail, he agrees that Russia and America are similar, but points out one main difference he finds. In order to do this, he repeats what his partner says in order to reframe it (*dass Amerika und Russland änlich sind, weil*

sie multikulturell sind) as an American student did in an above example with a NS partner. Later in the exchange, the American student uses the e-mail exchange as an opportunity to ask his partner about life in Russia and the Russian school system. His Russian e-pal responds with a description of the school system answered by a discussion of the American school system. Once these e-pals were able to establish what each of them already knew about each other's countries through a general discussion that scaffolded each other's topics, they were able to advance to asking more specific questions about aspects of each other's cultures.

The following examples are shorter examples of students learning new vocabulary and students scaffolding in order to build camaraderie, similar to the NS examples.

> NNS: Machst du *Filme*?
>
> AS: Ich mache *Filme* nicht, aber ich finde dass sehr interessant. Ich wuerde gern einege Tag ein Filme machen.
>
> NNS: Interresant, dass du eines Tages mal einen Film machen würdest. *Worüber würdest du drehen*? Apropo, ich habe schon in einem Film mitgemacht. . .
>
> AS: Ich weiss nicht, *worüber ich einen Film drehen*. Ich denke dass uber das Musik in Austin. Austin ist die "live musik Hauptstadt auf der welt" so ich würde viel musik zu filmen.

> NNS: Do you make *films*?
>
> AS: I don't make *films*, but I find that interesting. I would like to make a film one day.

> NNS: Interesting, <u>that you would like to make a film one day</u>. *What would you make it about?* Apropo, I have already been in a film. . .
>
> AS: I don't know what I would make a film about. I think about the music in Austin. Austin is the live music capital of the world so I would film lots of music.

In this example, the e-pals are discussing the American student's future plans of making a film. In the first example of scaffolding, the NNS repeats what the student said (underlined), but with correct syntax and spelling. The NNS then asks a question that her American e-pal repeats almost verbatim when answering the question and therefore learns how to say *to film* in German because she regards her e-pal as an authority. In her answer, she also provides some additional cultural information about Austin rather than just answering the question as students often do in the classroom when interviewing a partner. In the next example, these same e-pals bond over the NNS' report of her Moped accident.

> NNS: *Ich bin ziemlich erkältet, habe* Halssmerzen, *Husten*, *Nasetropfen* und solche schöne Sachen. Ausserdem, stelle Dir vor ich hatte einen *Unfall mit dem Moped*. . . Ja, also jetzt habe ich *einen schönen blau-grünen Fleck* auf meinen Bein, ein bißchen Halsweh aber im Grunde genommen geht es mir blended.
>
> AS: Ich hoffe, dass du sehr bald gut fuehlen. Wow! *Ich bin auch jetzt ziemlich erkältet. Ich habe auch Husten und Nasetropfen*. Das ist sehr schade über ihren *Unfall mit dem Moped*. Ich hoffe, dass dich sehr, sehr bald erholen. Jetzt habe ich kein *Unfallen* . . . schon. Ich denke dass, sehr cool ist du hat *einen schönen blau-grünen Fleck* … es ist ein schönen Wunde von ein Schlacht.

NNS: Ich hoffe, das es dir *besser* geht und du *nicht mehr erkältet* bist. Wie *kalt* ist es bei euch? . .

AS: Danke. Ich bin *besser* und ich *nicht mehr erkältet*. In Austin ist es nicht *kalt*. .

NNS: *I have a little cold*, I have a *sore throat*, *coughing*, a runny nose, and other such things. Other than than, imagine, I had a *moped accident*. . Yeah, so now I have a *beautiful blue-green spot* on my leg, a little bit of a sore neck, but in general I'm doing great.

AS: I hope that you feel good soon. Wow! *I also have a little cold right now*. I also have *coughing* and a *sore throat*. That is very much too bad about your *accident with the moped*. I hope that you recover very, very soon. Right now I have no *accidents* . . great. I think that it is very cool that you have *a beautiful blue-green spot* . . . it is a wound from battle.

NNS: I hope that you are doing *better* and that *you don't have a cold anymore*. *How cold is it by you*?

AS: Thank you. I am *better* and *I don't have a cold anymore*. *It's not very cold in Austin.*

These e-pals are building solidarity in the following examples. Instead of focusing mainly on cultural, impersonal topics, they are relating more personal information about themselves and sympathizing with each other. They are concerned about each other's health and the student tries to make light of her e-pal's bruises when she says it is "cool" to have battle wounds. Through this exchange, the American student is also incorporating her e-pal's new vocabulary into her e-mails. Although her German proficiency is not as high as some of her classmates', the American e-pal is able to communicate successfully, partly by incorporating some of her e-pal's syntax and vocabulary into her e-mails. In this

manner, she already has a "scaffold" to build onto rather than having to construct her e-mails from scratch.

In the following e-mail, a student is confronted, likely for the first time, with how to discuss the issue of how to address each other – with *du* or *Sie*, the formal or informal form of you.

S: Es tut mir Leid. Sie warten so lange für meine Brief.

NNS: Ich habe einen Vorschlag, willst du mir nicht *dutzen*? So, ich bin Maria.

S: Ich entschuldige mich für nicht *dutzen*. Ich werde es schon machen.

AS: I'm sorry. You (formal) wait so long for my letter.

NNS: I have a suggestion, do you not want *to call my you (informal)*? So, I am Maria.

AS: I excuse myself for not *calling you informal you*. I will do it.

In this exchange, the American student was engaged in the cultural discussion of how to address someone and at the same time learned the verb for addressing someone with *du*, the informal form of you. Although this cultural difference was discussed in class, it changed from being a theoretical aspect of German culture to pragmatic ability when the student had the opportunity to discuss it in an authentic, practical situation.

From each of the above examples, whether exchanges with a NS or NNS, we can observe how students were able to learn new vocabulary and incorporate it into their own e-mails, learn about and discuss a different culture using new

syntax and vocabulary, build camaraderie by scaffolding their e-pal, and reinterpret their e-pal's comments by repeating and reframing their e-pal's remarks. In addition, all of these functions were performed within the context of an authentic conversation in which the students were able to guide the conversation according to their interests. Each group made similar gains in knowledge of another culture while improving vocabulary and syntax, similar to the finding of previous studies that employed computer-mediated communication as a means to link members of different cultures (Müller-Hartman 2000, Leahy 2001, Liaw & Johnson 2001).

SCAFFOLDING WITHIN THE ZONE OF PROXIMAL DEVELOPMENT

1. Do the e-pals in the German-American dyads scaffold more content knowledge with each other than e-pals in the NNS-NNS dyads?
2. How do American students scaffold content knowledge from their e-pals to improve their understanding of various topics?

Scaffolding that took place in the zone of proximal development was marked by students discussing a topic over several e-mails where an obvious change in knowledge or point of view took place. As the FL learner negotiates, she scaffolds with her partner to increase her knowledge of a certain topic, language construction, or vocabulary which could lead to her internalizing these, then later produce it without assistance.

In addition to scaffolding vocabulary, topic, and syntax, students also engaged in a different kind of scaffolding within their zones of proximal development (ZPD), the difference between a learner's actual and potential abilities. With the help of an expert or peer, a learner can progress from not understanding or being involved in the task (object-regulation), to where the learner has internalized the goals and information necessary to complete the task and is able to complete it without assistance (self-regulation) (Aljaafreh and Lantolf 1994). In the ZPDs, students were able to work together with their e-pals to construct deeper meanings of culture so that both participants left the dialogue with a new understanding of the conversation topic. Mikhel Bakhtin describes this new meaning as "the struggle between two conceptual systems which creates new elements and understanding different from what the participants had before" (1981). Both e-pals enter the conversation with a certain understanding of a topic. After their understandings meet and join, both participants leave the discussion with a new understanding that was formed by the union of both of their previous conceptions. This struggle can take place within the context of the e-pals' ZPDs and is facilitated through their collaboration. By the end of the e-exchanges, the e-pals were able to construct new knowledge with each other's assistance.

For some students this is the first time they have been in the expert role with the opportunity to explain something to someone in the target language. Since neither e-pal was an expert on German culture, the students and their e-pals

were peers, each with something to offer to the other. Even if the e-pal was an expert linguistically, the students still had much new information to offer about themselves and their culture. One way students' ZPD progression can be defined and measured in this data is by using Bloom's "Taxonomy of Educational Objectives" (1956) to trace students' use of higher-order thinking in their discussions. Students begin at the knowledge level with awareness of basic information about the other person or culture. As they begin to exchange more information with their e-pals, their knowledge changes to comprehension when they have a deeper understanding of the information. The next step is application, illustrated by the ability to interpret information into a new context. In the analysis stage, students are able to explain information to their partners. During the last two steps, synthesis and evaluation, students are collaborating with their e-pals to create new meanings and then assess those new meanings within their cultural standpoints. Although Bloom did not account for the importance of the dialogue in his taxonomy, sociocultural theory accounts for the role of dialogue as a necessary component of the progression from knowledge to evaluation within the ZPD (McCafferty 1994, Platt & Brooks 1994).

Table 8. Bloom's Taxonomy

Evaluation
Synthesis
Analysis
Application
Comprehension
Knowledge

The data from the e-mail exchanges show that many students were able to explain new concepts to their e-pals and about ¼ of those students were able to take the explanation a step further to progress from analysis to synthesis and evaluation. Similar to the previously discussed findings, there were no differences between the numbers of students' explanations or numbers of ZPD progressions in the two groups. This was somewhat surprising because it seemed that the NS provide more explanations because they might view themselves as experts of the German language and culture, as would their American partners. The number of explanations was, however, almost the same between NS and NNS groups and between both groups of students. In 20 e-mails, the native speakers explained 119 different topics to their e-pals while their student e-pals explained 110 topics to them. Among the 19 e-mails of the nonnative speakers, they explained 99 topics to their student e-pals and their e-pals explained 103 topics to

them. Out of those explanations, ¼ of the topics were repeated and expanded to allow new meanings to be constructed so that students exhibited a progression within their ZPD (27 examples among the NS student e-pals and 25 examples among the NNS student e-pals).

Table 9. Explanations

Native speakers	NS student e-pals	Nonnative speakers	NNS student e-pals
119	110	99	103

Table 10. ZPD Progression

NS student e-pals	NNS student e-pals
27	25

Among the examples of ZPD progression, I noted if there was a difference between the roles of the e-pals, for example expert/novice or peer/peer. It was expected that the NS group would have more examples of an expert/novice relationship because of the German speakers' perceived expert knowledge of the German culture and that the NNS group would have a more even peer/peer relationship because neither was the expert on German culture. The findings contradicted this expectation. The e-pals in the NNS group shared the expert role when discussing their own cultures, but there were no examples where one e-pal assumed the expert role during the ZPD progressions. In the NS group, there were only four examples of the NS in the expert role without the student reciprocating. One of these examples will be shown below, along with examples

from the NS and NNS groups in which the e-pals share the expert role as they build meaning together within their ZPDs.

Native-Nonnative Speaker ZPD Scaffolding

The following conversation that starts with a discussion of German culture illustrates an explanation by both the NS and her e-pal as well as an example of the American e-pal displaying her new knowledge of patriotism.

> NS: Meine bayerisch, deutsche Kultur würde ich folgt beschreiben: - sehr traditionsbehaftet und am Brauchtum festhaltend. Du wirst sicher das Oktoberfest kennen, genau dass meine ich mit Tradition!
>
> AS: Wohnst du jetzt in Bayern? Ich bin durch Bayern gereisen und es ist sehr schön!
> *Ein Hauptteil der amerikanischen Kultur ist die Nationalhymne "The Star Spangled Banner," die über die Nationalflagge ist.* Letzte Woche haben wir die deutsche Nationalhymne "Das Lied der Deutschen" gelesen.
> Bist du mit der deutschen Nationalhymne vertraut? Kennst du alle Strophen der Hymne? *Das "Star Spangled Banner" hat, ich denke, vier Strophen* aber das "Deutschlandlied" hat nur 3 Strophen. *Ich kenne die erste Strophe von "Star Spangled Banner" aber nur Teile der anderen Strophen. Es ist sehr patriotisch und viele Amerikaner empfinden patriotisch, wenn sie die Naitonalhymne singen.* Empfindest du patriotisch, wenn du die deutsche Nationalhymne singst?
>
> NS: Unsere Nationalhymne ist eigentlich weniger patriotisch und wird eigentlich nur bei sehr festlichen Gelegenheiten oder Fußballspielen gesungen! Für uns Deutschen ist der Patriotismus weniger wichtig, denke ich, als für die Amerikaner.
>
> AS: *Über Patriotismus . . . Ich denke, dass Amerikaner viel patriotischer als alle sind.* Was denkst du über den Krieg mit Osama bin Laden und den Terrorismus, usw nach?

NS: I would describe my Bavarian German culture as follows – very traditional and clinging to customs. You are definitely familiar with Octoberfest, exactly that is what I mean by tradition.

AS: Do live in Bavaria right now? I traveled through Bavaria and it is very pretty.

A main part of American culture is the national anthem "The Star Spangled Banner" which is about the national flag. Last week we read the German national anthem, "Das Lied der Deutschen."

Do you know the German national anthem by heart? Do you know all the stanzas of the anthem? *The "Star Spangled Banner" has, I think, 4 stanzas* but the "Deutschlandlied" only has 3 stanzas. *I know the first stanza of the "Star Spangled Banner" but only parts of the other stanzas. It is very patriotic and many Americans feel patriotic when they sing the national anthem.* Do you feel patriotic when you sing the national anthem?

NS: Our national anthem is actually less patriotic and is only sung at very festive occasions or soccer games. For us Germans patriotism is less important I think than for the Americans.

AS: *About Patriotism . . . I think that Americans are much more patriotic than all others.* What do you think about the war with Osama bin Laden and terrorism and so forth?

In this example, the NS begins with an explanation of her view of Bavarian culture. The American student responds to that briefly and then begins her explanation of an important part of American culture: "The Star Spangled Banner." She also weaves her comments about the American national anthem into what she knows and wants to know about the German national anthem. Her NS e-pal responds with an explanation of when the German national anthem is normally sung which brings the American student to the idea that Americans are more patriotic than others. While on the topic of patriotism, the American student

is reminded of the war because that is one reason Americans were especially patriotic at this time. Through this discussion, the American is working within her ZPD to come to a new understanding about patriotism. She explains the importance of the national anthem in the US and learns that it has a quite different role in Germany and does not inspire the patriotism that it does in the US. After her partner comes to the conclusion that Americans are more patriotic than Germans, the American student agrees and expands on the idea. Although she may have heard this before, actually discussing the topic lead her to a deeper understanding of the concept of patriotism. Her e-mail exchanges progressed from analysis (explaining the traditions associated with "The Star Spangled Banner" to her e-pal) to synthesis (connecting what she knew about the American national anthem with the German anthem) to evaluation (concluding that Americans are more patriotic than Germans).

In the next example, the e-pals discuss their stereotypes about each other's cultures.

> AS: Dieser Woche haben wir über Kultur besprochen. Wir haben über Stereotype in andere Länder diskutieren. z.B. "In Deutschland Leute sind sehr sauber, essen viele Bratwurst und hat gut Bier." (und viele andere dinge) Vielleicht du findest das humorvoll und hoffentlich nicht offensiv! Ich möchte was Stereotype für Amerika sind. Was denkst du? (Grundehrlich, bitte.)
>
> NS: Zu der Frage in dieser Woche: Amerika – Stereotype sind für mich McDonalds und Fastfood. Weiter denke ich an breite Highways voller Autos und andererseits gepflegte Wohnviertel ohne Gehwege. Freiheit und Weiträumigkeit. Die Religiosität in Amerika. Zum Thema fällt mir dann das puritanische (sittenstreng) Verhalten auf. Am Strand muss man

unbedingt eine Umkleidekabine nutzen, um sich die Badehose anzuziehen, ohne Bikinioberteil darf eine Frau am öffentlichen Strand nicht sonnen. Rassenkonflikte. Westernfilme und Countrymusic. Die Beschränkung des Denkens nur auf Amerika – nicht global denken – wenig Geographiekenntnisse der übrigen Welt. Das fällt mir so ganz spontan zu deiner Frage ein. Das sind Stereotype. Da ich aber schon in Amerika war, weiß ich das manches sogar ist, wie ich gedacht hatte.

AS: Danke für Amerikanisch Stereotype beschreiben. Deiner Antwort was sehr interessant für mich. "McDonald's und fast food" waren zuerst humorvoll zu mich aber jetzt ich denke, dass du ein guten punkt hat. (Ich finde McDonald's grausam aber meine Freunde finden es gut.) In Amerika haben wir viele fast food verglichen mit Deutschland. (richtig?)

NS: Zu McDonald's gehen wir hier auch nicht. Die Hamburger und andere fast foods sind teuerer als in Amerika. Wir mögen die weichen Brötchen nicht, das ist wie Watte. Die Kinder und Jugendlichen sind aber sehr oft dort. Sie trinken gern Coca Cola. An einem Wochenende im Juli jeden Jahres findet in Berlin die "Love Parade," ein Straßenumzug mit Technomusic, vielen DJ auf Tracks, ungefähr 1,2 Milloin meist jugendlicher Teilnehmer und vielen Zuschauern statt. Vielleicht hast du im TV schon einmal Bilder davon gesehen, die gehen um die ganze Welt. Das ist ein "Fest" für McDonald's. An diesen Tagen sind in der Stadt die Restaurants voll Konsumenten und alle wollen McDonald's und Burger King. Das kannst du dir vorstellen.

AS: Ich finde es interessant das Kinder und Jugendlichen in Deutschland geht oft zu McDonald's, weil Wendy's besser ist!☺

AS: This week we talked about culture. We talked about stereotypes in other countries. For example, "In Germany people are clean, eat lots of Bratwurst and have good beer." (and many other things) Maybe you find that humorous and hopefully not offensive! I would like to know what kind of stereotypes there are for America. What do you think? (Thoroughly honest, please.)

NS: About your question of the week: American – stereotypes are for me McDonalds and fast food. Further I think of big highways, full of cars and on the other side crowded neighborhoods without sidewalks. Freedom and space. The religiousness of America. In regard to that topic the puritanical behavior occurs to me. At the beach one must absolutely use a

> changing room to put on a bathing suit, and women are not allowed to sunbathe without a top. Race conflict. Western movies and country music. The restricted thinking only about America – not thinking globally – little geographical knowledge of the rest of the world. That is what occurs to me right now in answer to your question. Those are stereotypes. Since I was already in America, I know that much is I had thought.
>
> AS: Thank you for describing the American stereotypes. Your answer was very interesting for me. "McDonalds and fast food" were at first funny to me but now I think that you had a good point. (I find McDonald's horrible but my friends like it). In America we have much fast food compared to Germany. (right?)
>
> NS: We don't go to McDonald's here either. The hamburgers and other fast foods are more expensive than in America. We don't like the soft white bread, that is like cotton-wool. The children and young people are often there. They like to drink Coca-cola. On a weekend in July every year in Berlin is the "Love Parade," a street parade with techno music, many DJs on tracks, about 1.2 million mostly young participants and many onlookers. Maybe you have seen pictures before on TV. They are shown around the whole world. That is a "party" for McDonald's. On these days the restaurants in the city are full of consumers and all of them want McDonald's and Burger King. You can imagine.
>
> AS: I find it interesting that children and young people in Germany often go to McDonald's because Wendy's is better. ☺

In the above exchange, the American student lists her stereotypes of Germany and asks to hear her e-pal's ideas about American stereotypes. He provides her with a list of what could be interpreted as negative images of America. The American student was appreciative of his description and focused mainly on his reference to McDonald's and fast food, during which she separates herself from the stereotype that Americans like fast food by pointing out that although her friends like McDonald's, she does not. At the end of her e-mail, she extrapolates from his comment that there is more fast food in the US than in Germany. Her e-pal

confirms this deduction and provides her with more information about who in Germany eats fast food: younger people, especially during the Love Parade. The American student responds with a joke about Wendy's tasting better than McDonald's. It is possible that the American student focused on the stereotype of fast food rather than any of the other stereotypes her e-pal mentioned because she can relate to the concept of fast food better than any of the other stereotypes, such as race conflict or going topless at the beach, and/or because she did not understand the other stereotypes, whether conceptually or lexically. Or perhaps it is culturally uncomfortable for the American student to discuss stereotypes and fast food seems more neutral than the other points her e-pal discussed.

This example is similar to the first one in that each student comes to a greater understanding about a certain aspect of German and American culture during the exchange. However the students' roles were slightly different from the other NS-NNS dyad. In the first example, each e-pal was contributing information equally and each partner maintained both an expert and novice role depending on whether she was discussing her own culture or not. This equality was mainly determined by the American e-pal's contributions to the discussion and embedded questions. She made a point to add her perspective on American patriotism while asking about German patriotism. In the second example, the American student is the novice gaining information from the expert. The American e-pal offers her idea of German stereotypes and then asks for American

stereotypes. As her partner replies, she does not add any further information to the discussion, except she synthesizes the new information to reach the conclusion that the US has more fast food than Germany. The e-pal responds with more opinions about young people eating fast food during Love Parade and again the American partner replies with a comment about how interesting it was to learn that. From her comments, she seems to view her NS e-pal as an expert on German culture from whom she gets information rather than a peer with whom she works to build new meanings together. The American partner interprets what her partner says and changes her previous beliefs about German culture accordingly, but she does not seem to see it as her role to provide her e-pal with indepth information about American culture as did the American student in the first e-mail. There were similar results and relationships among the students with NNS e-pals.

Nonnative-Nonnative speaker ZPD Scaffolding

In the following example with a NNS e-pal, the students are able to build new meanings together about the tests they have to take in their countries.

> AS: Ich muss arbeite, die Bezahlung meiner Ausbildung zu bezahlen. Auch arbeite ich manchmals als Journalistin – Journalismus ist mein Hauptfach – bei einer wöchentliche Zeitung. Ich schreibe über Politik, Polizei und so weiter. Sag mir, bei welchen Universität willst du studieren und was für welches Hauptfach interessierst du dich?
>
> NNS: Nach dem Abitur möchte ich Psychologie als Hauptfach studieren. Ich weiss nicht, wie es bei euch ist, aber bei uns können wir mehr Anmeldungen an verschiedene Hochschulen (Universitäten) einreichen.

Dann hängt alles davon ab, ob man die Prüfungen gut ablegt. Ich versuche die Prüfungen in drei oder vier Städten machen. Ich habe aber Angst, dass ich auf keine Universität gerate, weil viele Leute sich um das Studium der Psychologie bewerben.

AS: Kannst du mir ein bisschen mehr erklaren, uber die Prüfungen, die du für Universitäte machen muss? Über welche Fächer schreibt man Prüfungen? Hat jede Uni eine andere Prüfunge, die man machen muss?

In dem USA haben wir zwei Prüfunge, die meistens den Gymnasiumstudentens schreiben kann, wenn sie an eine Uni studieren wollen. Die Prüfungen heissen das SAT und das ACT. Manche Universitäte akzeptieren nur das SAT, manchen nur das ACT, und manche akzeptieren beide. Im grossen und ganzen, die teuerere Privatuniversitäte akzeptieren das ACT und öffentliche Universitäte akzeptieren das SAT, aber beide Prüfungen testen, wie gut man Lesen, Schreiben, und Mathematik kennt. Ich habe ihnen nicht so schwer gefunden, aber wie du hast gesagt, viel hängt davon.

Als Gymansiumstudentin habe ich sehr lang und schwer auf diese Prüfungen mich vorbereiten. Aber ich weiss nicht, ob ich glauben kann, dass eine Prüfunge eines Persons echt Intelligenz oder Fähigkeit prüfen kann. Soll nur einige oder ein paar Prüfunge mans ganz Zukunft bestimmen? Sind nicht viele Dinge wichtiger, als mans Prüfungergebnis? Zum Beispiel, ob man ein fleissig Student oder, ob man interessiert sich echt für ein Fach. Was denkst du, kann eine Prüfunge wirklich Intelligenz messen?

NNS: Ich weiss nicht, ob ich dir unser Prüfungssystem gut erklären kann, aber ich versuche es. An jeder Uni gibt es andere Prüfungen. Einige Unis testen die Studenten nur mündlich, an den künstlerischen Schulen gibt es meistens eine Talentprüfung und einen Test. An anderen Universitäten muss man nur einen Test schreiben.

Letzte Woche habe ich schon konkrete Unis ausgewählt. Eine ist in Prag, unserer Hauptstadt. Die Prüfung dort hat drei Runden. In der ersten Runde soll man drei Tests schreiben – einen Test aus Psychologie, einen Test aus Biologie oder aus den Gründen der Gesellschaftswissenschaften und einen Test, den deine Vorraussetzungen für das Studium prüft. Wenn man die erst Runde besteht, geht er in die zweite. Dort macht man ein Gespräch über Voraussetzungen und die gelesene Literatur und in der dritten Runde ist man aus einer Fremdsprache mündlich geprüft.

Die zweite Uni . . .

Es ist vielleicht ein grosses Caos, was ich jetzt geschrieben habe, aber ich hoffe, dass du wenigstens etwas begriffen hast. Ich meine, dass die Prüfungen die Intelligenz nicht messen können. Ich bin der Meinung, das die Prüfung zeigt nur, ob man logisch überlegen kann.

Aber wie du geschrieben hast, es gibt auch wichtiger Sachen im Leben und deshalb weg von diesem Thema.

AS: Die Prüfungen, die du schreiben muss, klingen ziemlich schwer. Schwer auch, dass man musst eine andere Prufung auf jeden Uni machen. Es beruhigt mich, dass ich nur zwei Prüfungen als Gymnasiumstudent schreiben musste. Wann werdest du deine Ergebnises auffinden?

AS: I have to work to pay the pay of my education. I also work sometimes as a journalist – journalism is my major – at a weekly paper. I write about politics, police, etc. Tell me at which university do you want to study and what kind of major are you interested in?

NNS: After the Abitur (test Germans take when they graduate from the college-prep high school) I would like to study psychology as my major. I don't know how it is there, but here we can send applications to different universities. Then everything depends on if one does well on the tests. I am trying to do the tests in 3 or 4 cities. I am worried that I won't get into any university because many people apply for psychology.

AS: Can you explain to me about the tests that you have to take for the universities? About which subjects does one take tests? Does every university a different test that one has to take?

In the US we have 2 tests that most of the high school students can take if they want to study. The tests are called the SAT and the ACT. Many universities accept only the SAT, many only the ACT, and many accept both. Basically the more expensive universities accept the ACT and public universities accept the SAT, but both tests test how well one can read, write, and do math. I didn't find them very hard, but as you said, a lot depends on them.

As a high school student I prepared long and hard for these tests. But I don't know if I can believe that a test can really measure the intelligence and skills of someone. Should only a few tests determine someone's entire future? Aren't many other things more important than someone's test results? For example, if one is a diligent student or if one is interested in a subject. What do you think, can a test really measure intelligence?

NNS: I don't know if I can explain our test system to you, but I'll try. At every university there are a different tests. Some universities test the students only orally, at the art schools there is normally a talent test and a test. At other universities one has to take a test.

Last week I chose the universities. One is in Prag, our capital. The test there has 3 rounds. In the first round one should take 3 tests – one test about psychology, one test about biology or about the fundamentals of science, and one test that tests your prerequisites for studying at a university. If one passes the first round, he goes to the second. Ther one has a conversation about the prerequisites and the literature one has read and in the third round one is orally tested in a foreign language.

The second university . . .

What I just described is perhaps a little chaotic, but I hope that you understood at least a little. I think that tests can't measure intelligence. I think that the test only shows if one can think logically.

But as you wrote, there are also more important things in life, and therefore on to a new topic.

AS: The tests that you have to take sound pretty hard. It's also hard that one has to take a different test at every university. It calms me that I only had to take 2 tests as a high school student. When will you get your results?

The e-pals in this exchange worked together as equals/peers within their ZPDs to progress from analysis to evaluation. In the analysis stage, each e-pal explains what she studies and the test systems of their countries in order to get into college. From their conversation, they both synthesize the information to come to the conclusion that tests do not measure everything and that there are more important things in life than tests, even though much about their futures rests on the results of tests. Finally the American e-pal re-evaluates the American testing system and realizes that it is not as demanding as she thought compared to the Czech system. Similar to the first NS example, these e-pals are working

together to teach each other about their countries' testing systems, learn about the other's system, and ultimately see their own systems in a different way after being exposed to the other system. This revelation corresponds to Bakhtin's claim that one understands her own culture in a new way after being exposed to a different culture (1981).

This change in perspective could also contribute to both students understanding the importance of double-voicedness in a discussion (Kramsch 1993). With each other's contributions and their exchange of information and meaning building, they reached new conclusions about testing. In addition, they were able to challenge their German proficiency by having to explain and understand complicated topics in the target language. Since they were both engaged in the topic and interested in learning and teaching about the topic, they remained in the conversation, engaging in double-voicedness, until the topic shifted and they became interested in new topics. Through arriving at the conclusion that tests cannot measure everything, the e-pals address their cultural differences in regard to tests, but rise above those differences to find a commonality between them –they were both nervous about taking the tests and the tests cannot measure everything anyway. If either of these students does not continue with her study of German or ever use German again in her life, one thing she will have taken from this class was what she learned from her e-pal – that

people from other cultures, despite their cultural differences, share similar human anxieties.

In the next example, the e-pals share their experiences about learning to drive in their respective countries.

> NNS: Ich habe ein schönes Geburtstag gehabt und von meinen Eltern habe ich die Fuhrerscheinausbildung bekommen. Hier in Schweden muss man 18 sein, um der Fuhrerschein zu bekommen aber ich weiss dass man in die USA nur 16 sein muss. Ob ich sehr oft trainiert kann ich vielleicht der Fuhrerschein in Sommer bekommen!
>
> AS: Hoffentlich muss ich dir nicht sagen, "fahr nicht zu schnell"! Ist die Fuhrerscheinausbildung schwer? Ich hatte einen kurzen Kurs über fahren, und es war ganz langweilig. Fahrst man an der linken Seite oder rechten Seite der Strasse in Schweden?
>
> NNS: Ich habe auch 3 Stunden Fahrstunden gehabt aber sie waren nicht so schwer. Ich fährst also nur mit dem Auto und dann kann ich später mit der Theorie anfangen. Ich habe gehört dass man in der USA die Theorie in der Schule lernt, stimmt das? Hier in Schweden muss man es auserhalb der Schule machen. Man fährt an der rechten Seite der Strasse hier in Schweden. Ich finde dass man an der linken Seite nur in England fährst, oder macht man das in Schottland auch?
>
> AS: Man kann die Theorie in der Schule lernen, aber man kann auch sie ausserdem der Schule lernen, es ist egal (ich habe die Theorie in der Schule gelernt). Man kann auch die Theorie von seinen Eltern lernen; ich habe das fast gemacht. Auch habe ich mich gefragt, wie das öffentliche Verkehrsmittel in Schweden ist? In der USA ist es schwer, verschiedene Stelle zu besuchen, wenn man kein Auto hat.
>
> Leider kann ich mich nicht erinnern, ob die Menschen an der linken oder rechten Seite in Schottland fahren.
>
> NNS: Hier in Schweden hat fast jede Person ein Auto aber es gibt sehr gute offentliche Verkehrsmittel so man braucht es eigentlich nicht, jedenfalls nicht ob man hier in südlichen Schweden wohnt. Es gibt sehr viele Autobusse und Züge die überall fahren aber es geht schneller mit dem Auto. Heute kann man auch mit dem Zug auf dem Brücke nach Dänemark fahren.

AS: Ich hoffe, dass alles gut mit deinem Fuhrerschein und auch mit dem Gymnasium geht.

NNS: I had a nice birthday and I got my driver's license from my parents. Here in Sweden one has to be 18 to get a driver's license but I know that in the US one only has to be 16. If I can train often, maybe I can get my license in the summer.

AS: Hopefully I don't have to tell you "don't drive too fast." Is the driver's license training hard? I had a course about driving and was really boring. Does one drive on the right or left side in Sweden?

NNS: I have had 3 hours of driving school and they weren't too hard. I drive only with the car and then later I start with the theory. I heard that in the US one learns the theory in school, is that right? Here in Sweden one has to do that outside of school. One drives on the right side of the street here in Sweden. I think that one only drives on the left side in England or does one do that in Scotland too?

AS: One can learn the theory in school, but one can learn it outside of school too. It doesn't matter (I learned the theory in school). One can also learn the theory from his parents; I almost did that. I also asked myself how the public transportation is in Sweden. In the US it's hard to visit different places if one doesn't have a car.

Unfortunately, I can't remember if the people in Scotland drive on the left or right.

NNS: Here in Sweden almost everyone has a car but there is very good public transportation so one doesn't really need it, especially not if one lives in southern Sweden. There are many buses and trains that drive all over but it's faster with a car. Now one can ride the train on the bridge to Denmark.

AS: I hope that everything goes well with your driver's license and also with high school.

In this example, the e-pals collaborate to share their knowledge about getting a driver's license in each other's countries. In contrast to the other

examples, however, the American student never exhibited that he advanced to the evaluative stage. He and his e-pal did scaffold within their ZPDs in order to increase their familiarity of the driver's license process. They compared the age one has to be to learn to drive in each country, from whome one learns driving theory, on which side of the road one drives, and what kind of public transportation there is in Sweden. The American student progressed from analysis, when he explained the process of getting a license in the US, to synthesis, when he asked about public transportation. He deduced from what his NNS e-pal told him about the long, expensive process of studying to learn to drive that it might be harder to get around in Sweden without a license just as it is in the US. From this realization, he wonders how the public transportation system in Sweden makes up for the challenging process of getting a license. The American e-pal, however, never illustrates that he uses this new information about his partner's license or the public transportation system to show that he compared the American and Swedish systems.

From the above examples, we can see the different ways e-pals were able to scaffold each other to build meaning within their zones of proximal development as shown in other ZPD studies (Aljafreh & Lantolf 1994, DeGuerrero & Villamil 1994, Donato 1994,). In all cases, the American e-pals progressed from being able to analyze information about their own culture and explain it to their partners to synthesizing the new information to reach new

understandings and meanings about the topic. In most other cases, but not all, the American e-pals were also able to evaluate those new meanings through comparing and assessing the new meanings, which enabled them to reach the final stage of Bloom's taxonomy of educational objectives. This was all achieved through the scaffolding of two e-pals in the target language without the assistance of the teacher. Whether e-pals reached synthesis or evaluation is noteworthy considering the fact that they guided their own learning to that level while discussing a topic in which they were interested, in the target language making the learning process learner-centered and driven. The data also illustrate that there was only a slight difference between groups in terms of expert/novice roles among the e-pals, however in all other cases, there was no difference between the groups in regard to scaffolding within the zone of proximal development. The instances of scaffolding were almost identical and similar types of scaffolding were evident in both groups. While the above data illustrated what and how the students learned during the e-mails, the following data shows how they felt about the exchange.

SURVEYS

Do American students with German e-pals have a more positive attitude towards the e-exchanges than the American students with other non-native German e-pals?

Twice during the semester, students completed an anonymous on-line survey, which measured their feelings about the exchange in terms of how much they felt they had learned about the German language and culture or other cultures. In addition, the survey assessed their feelings towards the exchange in general; if they enjoyed corresponding with their partner or not. The first survey was administered after only two e-mails had been exchanged and, therefore, its results are not very telling; thus, only the survey given at the end of the semester after the exchanges had ended will be discussed. 55 students with NS e-pals and 62 students with NNS e-pals responded to the survey. Of the 55 with NS e-pals, 33 were from third-semester German and 22 were from fourth semester German. Of the 62 with NNS e-pals, 45 were from third semester German and 17 were from fourth semester German. These numbers are only significant in regard to the last two survey questions[13].

Students' opinions of the exchange are significant because how they felt about the exchange could have determined how much effort they contributed to the conversation. According to activity theory, a component of sociocultural theory, all of our motivations and actions are influenced by our sociocultural context (Lantolf & Appel 1994). The setting of an activity, in this case the e-mail exchange as part of a class assignment, determines the goals and means applied in

[13] Which assignment(s) did you work the hardest on this semester?

From which assignment did you learn the most this semester?

order to complete the task. Since the exchange was a required assignment in their German class, how students chose to complete the task was likely different than how they might have confronted an e-mail exchange with a friend in a foreign country. Their motive, why they completed the task, and how they chose to complete it would have likely been different because of the context in which the task was situated. Students' attitudes towards the exchange, whether positive or negative, and whether students viewed the exchange as useful or not, likely affected how they chose to execute the assignment.

In the survey, there were 23 multiple-choice questions on a likert-based scale within the categories of writing, culture, enjoyment, and negotiation and five free response questions pertaining to satisfaction with the exchange. Among the questions, there were only two that were significantly different between the NS and NNS groups. More students with NS e-pals reported learning about German culture from the exchange (Chi-square=34.03, df=4, p=.001). This was to be expected since the American students with NS e-pals spoke mainly about German and American culture in their e-mails. The other significant difference was that students with NS e-pals felt more comfortable asking their partners questions when they did not understand something than their peers with NNS e-pals (Chi-square=8.2, df=3, p=.043). This result was somewhat surprising because it was hypothesized that the students with NS e-pals would feel more intimidated by their partners because of their expert role in terms of both language and culture.

This finding is also surprising because even though students reported that they felt comfortable asking questions, from the results on the amount of negotiation of meaning, students did not often ask for clarification and they did not ask more often than students with NNS e-pals (Students with NS e-pals initiated negotiation 11 times and students with NNS e-pals initiated negotiation 8 times).

Following is a discussion of the survey questions in detail grouped according to their categories. It is important to note that some of the students who took this survey did not participate in the e-mail exchange for the entire semester either because they chose not to write e-mails or their partners stopped corresponding after a certain amount of time, which might account for some of the outlying disagree and strongly disagree answers.

Writing

From the results of the questions concerning writing (see appendix), in all four questions most of the students, regardless of the L2 of their e-pal, responded positively when asked about whether the e-mails improved their writing skills. It is logical that students' writing would improve from the e-mails because they had to write the equivalent of a short essay each week in addition to their other assignments. When asked if they felt their writing improved from the exchange, the majority of both groups responded agree or strongly agree (NS=66% and NNS=67%). The majority of students also reported that the e-mail gave them a chance to practice grammar they learned in class (NS=77% and NNS=72%). In

addition to practicing new grammar, students learned new phrases and/or vocabulary from their e-pals (NS=71% and NNS =58%). Almost ¾ of students reported being able to use their German in different ways in the e-mails (NS=74% and NNS=69%). It was encouraging to see that even though these students were in their third or fourth semester of German, ¾ of them felt they could creatively express themselves in the e-mails (NS=74% and NNS=70%). Students somehow overcame their linguistic limitations and were able to relay most of what they wanted to say in the way they wanted to express it.

From these results, it is clear that students felt that their writing had improved from the e-mails; they felt that they were able to practice new vocabulary and grammar in the e-mails while using their German in different ways than they normally would in class (writing essays, completing grammar homework, or answering questions about a text). Since the exchanges were learner-centered, students were able to use the grammar and vocabulary they wanted to practice and practice other discourse functions they normally do not use in the classroom, such as asking questions and shifting topics as found in other CMC studies (Warschauer 1997, Beauvois 1997, Furstenburg 1997, Schneider & von der Emde 2000, Liaw & Johnson 2001).

Culture

The first table in regard to learning about German culture from the e-mails was already discussed above as one of the only questions with a significant

difference between students with NS versus students with NNS e-pals.. Whereas 70% of the NS partners reported learning about German culture from their e-pal, only 21% of the NNS partners said they learned about German culture from their e-pal. These results were to be expected. The next question, which asked if students had learned about other cultures, had no significant differences between answers (NS=52% and NNS=66%). This could be because some students in the NS group considered "learning about German culture" to be the same as "learning about other cultures." Perhaps the question should have stated "cultures other than German-speaking cultures" in order to find out if the NS partners thought they learned about others cultures as well as German culture. The number of students who reported that they thought about American culture in new ways from the exchange was almost even in both groups, a little over 50% for each group (NS=59% and NNS=58%) and most of the other students reporting were neutral on that question (NS=32% and NNS=27%). As the scaffolding results illustrated, the students who responded positively to that question were able to reinterpret some of the understandings they have about aspects of American culture in the context of another culture, which corresponds to Bakhtin's claim that we understand our own culture better when confronted with the beliefs of a different culture (1981).

The last two questions in the culture section referred to students' satisfaction with how much they learned about the German cultures. The majority

of students were neutral or affirming in their answer to these questions. Among the NS partnered students, 46% wished they had learned more about German culture (34% neutral) while 34% wished they had learned more about other cultures (41 % neutral). These results were somewhat surprising because between the e-mails and the readings in their textbook, German culture was a main focalpoint of the semester. Whether students did not enjoy the cultural aspects they did learn about or did not feel they learned enough about German culture in general is unknown. Among the NNS partnered students, 37% wished they had learned more about German culture (43% neutral) and only 22% wished they had learned more about other cultures (46% neutral). From these results, it seems that most students with NNS e-pals felt they had learned enough about other cultures during the semester or they felt neutral. While these questions about culture answer some questions about what students felt they learned about their own and other cultures, they also raise questions about what aspects of culture students prefer to learn about in their FL classroom.

Negotiation of Meaning

According to the results of the questions that concerned the negotiation of meaning in the e-mails, most students understood what their partners wrote, felt comfortable asking questions, and neither the American students nor their e-pals were passive during the exchange. It was exciting to see that even though students were corresponding with native German speakers and NNSs, in many

cases, with higher German proficiency than the American students, 88% of the students corresponding with NSs understood what their e-pals wrote and 80% of the NNS group understood their e-pals. This is likely due to a combination of the NS e-pals writing more simply for their American partners and the American partners feeling driven to understand what their partners were writing so that they could answer them. Only about half of the American students thought their partners were willing to explain something when asked for clarification (NS=56% and NNS=48%). This low number is confirmed in the data on negotiation of meaning. The foreign e-pals, both the Germans and NNSs, were less likely to answer questions than their American partners and often left clarification questions unanswered. Over half of the students replied that neither they nor their e-pals were passive in the discussions (e-pals not passive– NS=57% and NNS=60%, students not passive – NS=66% and NNS=54%). This suggests that although e-pals did not always answer clarification questions, most students still felt they were engaged in the conversation or felt neutral about the question.

The last question about how comfortable students felt asking their partner questions was the other significant difference. More students with NS e-pals felt comfortable asking their e-pals questions than students with NNS e-pals (NS=65% and NNS 50%). Although students reported that they felt comfortable asking questions, they seldom did, possibly because they had no questions about misunderstandings. These results could explain the reason for the low rate of

negotiation of meaning. If students felt they understood most of what their e-pals wrote (whether they actually did or not), as they reported, than there was no reason for negotiation.

Enjoyment

Even though some of the students found the e-mail exchange somewhat stressful (NS=43% and NNS=44%), over half of the students seemed to enjoy the exchange (NNS=61% and NNS56%). Although many students were neutral about staying in touch with their e-pal (NS=45% and NNS=40%), at least half of the students were interested in participating in another e-mail exchange (NS=68% and NNS=50%). It is possible that more students who corresponded with NS were willing to engage in another exchange because NSs were more reliable repliers. When asked if they felt the e-mails were thought provoking, over half of the students replied yes (NS=63% and NNS=58%). Even though students may not have felt a connection with their e-pals to continue the correspondence, they would be interested in trying such an exchange again, possibly because of the stimulating nature of the e-mails.

The last two survey questions dealt with what course assignments students felt they worked hardest on and what they learned the most from during the semester. The fact that 22 out of the 55 NS students (40%) surveyed were from fourth semester German, where students had to write three essays during the semester, and only 17 out of the 62 NNS students (27%) were from fourth

semester German affected the results of these two questions. In addition, students could check more than one box for these questions, so the percentages do not add up to 100. Most of the students felt they spent the most time on the essays (NS=89% and NNS=61%). The higher percentage of students with NS e-pals replying that they worked harder on the essays is likely due to the higher percentage of students from fourth semester German who replied to that question. They worked second hardest on reading the texts (NS=56% and NNS=40%), and third hardest on the e-mails (NS=41% and NNS= 24%). It is interesting to note that the NNS felt they worked as hard on the grammar review as they did on the e-mails.

Although both groups of students felt they worked the hardest on the essays, most students reported learning the most from reading the texts (NS=94% and NNS=48%). The number of responses from the NNS group were the same for the grammar and texts; the same amount of students reported learning the most from the essays as did from the grammar. This could be because there were more students from third semester German in the NNS group where students learn more grammar than in the fourth semester. The NS group responded that they learned the second most from reading and writing the e-mails (61%), the third most from writing the essays (43%) and the least from the grammar review (29%). The NNS group, on the other hand, learned the second most from writing the essays (47%), and the third most from reading/writing the e-mails (27%).

From these results, it seems that the NS group felt they learned more from the e-mails than the NNS group did.

Free Response Questions

In addition to the 23 multiple-choice questions, there were five free response questions. The questions along with the most common answers are listed in the appendix.

The results of the free response questions exhibit the largest differences between the groups of any of the other results. It seems this is partly due to the reliability of the partners. Since the NS as a group wrote back more regularly and students therefore did not have to wait as long for a response, the overall e-mail exchange was more enjoyable to the students with NS e-pals. 27% of the students with NNS e-pals reported that the hardest part of the e-mails was waiting for their e-pals to respond, whereas only 15% of the students with NS e-pals found waiting to be the hardest part of the exchange. The NNS group (19%) also found writing in German harder than the NS group (9%), however the NS group (27%) reported having a harder time understanding their partners than the NNS group (10%). This was likely due either to the fact that the NNS were closer to the American students' proficiency levels or were more sympathetic to learning a language and adjusted their language level to that of their American e-pals.

The hardest part of the exchange for students with NS e-pals was thinking of a topic (29%), while only 16% of the NNS students expressed having difficulty

thinking of a topic. It was interesting that both groups had a hard time finding a topic to discuss since they were reading about and discussing different cultural issues in class and received a list of possible topics at the beginning of the exchange, however it is even more puzzling that almost twice as many students with NS e-pals reported having problems thinking of discussion topics.

While American partners with NS e-pals expressed having difficulty with topics, almost half of these students' favorite aspect of the exchanges was meeting a new person (55%) followed by a little over a quarter of the students reporting they enjoyed learning about a new culture (27%). Although almost a quarter less of the students with NNS e-pals reported that they enjoyed meeting a new person, almost the same amount of students who enjoyed learning about a new culture (29%) enjoyed meeting a new person (26%). Both groups had similar results for the amount of students who found the best aspect of the exchange to be practicing German (NS=9% and NNS=15%). These amounts were similar to the amounts of students who found speaking German to be the hardest aspect of the exchange (NS=9% and NNS=19%). These results could be similar because some of the same students who enjoyed speaking German, might have been the students who also found it to be the hardest and they enjoyed it because of the challenge speaking German provided them.

When asked whether they enjoyed the exchange or not, more students in the NS group reported positively (58%) than students in the NNS group (48%).

Most students with NNS e-pals enjoyed the exchange because it was interesting and fun (38%), because they were able to practice their German (28%), and because they liked their partner (19%). Students with NS e-pals like the exchange for the same reasons, but in a different order. Most students enjoyed the exchange because of the opportunities to practice German (29%), because they liked their partner (26%), and because it was fun (23%). Half of the students who did not like the exchange felt that way because they had to wait to long for their partners to reply. Although the NNS e-pals were less reliable, students with NS e-pals also did not appreciate having to wait for a response. Even though NS replied to their American e-pals more regularly than the NNS, 20% of the students with NS e-pals who did not like the exchange did not like their partners, whereas only 6% of the students with NNS e-pals responded similarly. It seems that students would be more likely to dislike partners who did not write back, but maybe those students were indifferent because they did not get to know their partners, whereas the students with reliable NS had more time to meet their partners and could make judgments accordingly. Students in both groups also expressed that they did not like the exchange because of the amount of work it required reading the e-mails and writing responses (NS=16% and NNS=21%). Students with NNS e-pals also reported having nothing to say (12%). It seems that if e-pals were more reliable about responding, the exchange would have been

a much more positive experience for many of the students involved, whether paired with a NNS or NS.

The final two questions (see tables below) regarding the entire semester asked students what they found to be the most positive and most negative aspects of their German class. In both groups, the answer with the highest percentage was e-mails. 31% of students with NS e-pals found the e-mail exchange to be the most positive aspect of the class followed by the texts (24%), the class discussions (15%), and the essays, teacher, and what they learned about culture (all 11%). Among students with NNS e-pals, an equal number of students responded that e-mails were the most positive as those who found the class discussions to be the best aspect of the class (19%). An almost equal amount of students also enjoyed the texts (16%), the teacher (15%), what they learned about culture (15%), and writing the essays (13%). The most negative aspect of the class were the texts (26%) among students with NNS e-pals followed by workload (15%) and workload among students with NS e-pals (22%) followed by the class discussions (13%). Students with NNS e-pals also found the worst aspect of the class to be grammar (11%) and the e-mails (8%), however the least amount of students disliked the e-mail exchange out of all that students found negative in the class in the NNS group. In the NS group, a similar amount of student found e-mails to be the most negative aspect of the class (10%) followed by the texts and the grammar (both 9%). Although it was not an overwhelmingly high amount of students who

found the e-mails to be the most positive aspect of the class, it was the highest ranking of all the other categories with low numbers of students reporting it to be the most negative aspect of the class.

Table 11 Most Positive Aspect of the Course

The most postive aspect of this course was ____.	NS total		NNS total	
E-mails	17	31%	12	19%
Essays	6	11%	8	13%
Texts	13	24%	10	16%
Teacher	6	11%	9	15%
Learning about culture	6	11%	9	15%
Class discussions/using German	8	15%	12	19%

Table 12. Most Negative Aspect of the Course

The most negative aspect of this course was ____.	NS total		NNS total	
E-mails	5	10%	5	8%
Workload	12	22%	9	15%
Texts	5	9%	16	26%
Grammar	5	9%	7	11%
Not enough speaking/class discussions	7	13%	0	

From the results of the free response questions, we can see that most students found the e-mail exchange to be a positive experience because they

enjoyed meeting a new person, learning about another culture, and practicing their German. The most negative aspect of the exchange was the unreliability of the partners causing students to have to wait more than a week for a response. This would understandably cause students to feel insecure about their German and topics they chose to discuss, wondering if their e-pals did not respond because of what or how they wrote, or even resentful towards their partners. Although each of the e-pals agreed to write to their American partners weekly, there was no way to hold them accountable to this guarantee. If the exchange were carried out on a smaller scale and the e-pals were more reliable, it is likely that more students would respond positively to the experience.

CHAPTER SUMMARY

The different categories of results illustrate that the e-mail exchange was a many-faceted task that allowed students to experience the German or another culture in a way quite different from how they normally learn about culture in the classroom. Students were able to interact with either a NS or NNS in the target language to explore stereotypes, both theirs and their e-pals', and beliefs about their own and other cultures. This was facilitated through negotiation of meaning, linguistic scaffolding of vocabulary, syntax, and topic, and scaffolding topics within the zone of proximal development to progress from a fundamental understanding of a topic to being able to integrate new meanings into the former

topic. Aside from having to wait for their partners to respond, most of the students involved in the exchange felt that it was a valuable experience that allowed them to meet someone new, learn about a new culture, and practice their German.

The main findings of each section are summarized in the table below, which is followed by a synopsis of the chapter.

Table 13. Overall Characteristics of the E-exchanges

	NNS group	**NS group**
Negotiation of Meaning	-American partner resorted less to English vocabulary. -NNS e-pals did not resolve vocabulary negotiation. -Both partners asked questions that related to culture and meaning.	-NS group learned new idioms. -Meaning questions were directed at NS -Culture questions were directed at Americans.
Topic, Lexical, Syntax Scaffolding	-Students learned a new word or sentence structure and incorporated it into their own context and interlanguage -Students learned about and discussed different culture using new syntax and vocabulary -American students reinterpreted their e-pal's comments by repeating and reframing e-pal's remarks	
ZPD Progression and Scaffolding	-Most students had peer/peer relationships and few had peer/expert relationships with partners. -Students guided their own learning in terms of topic choice and shift. -1/4 of the American students progressed from being able to *analyze* information about their own culture and *explain* it to their partners to *synthesizing* new information to reach new understandings and meanings about the topic. -In some cases, students could *evaluate* those new meanings through comparison and assessment.	

Attitudes	-Students with NNS e-pals learned less about German culture. -Students with NNS e-pals felt less comfortable asking their partners questions.	-Students with NS e-pals learned more about German culture -Students with NS e-pals felt more comfortable asking questions.
	-Students felt their writing improved and they could practice German in new and different ways. -Over half of the students reported liking the e-exchange.	

In conclusion, both groups benefited in many ways from the e-exchange. Due to the opportunities for negotiation of meaning, students received feedback on their interlanguage and were able to make changes accordingly (Pica 1987, Pica 1988, Pica 1989, Pica 1992, Pica 1996). Although due to the low amounts of negotiation of meaning, this type of e-mail exchange is not the best task-type to encourage negotiation of meaning.

The results of the lexical, syntax, and topic scaffolding suggest that the e-mail exchange is a rich environment for students to expand their vocabulary and range of topics they are able to discuss. While learning this new vocabulary and syntax in the context of repeating and reframing their e-pals' comments, students were also learning about other cultures and explaining about their own. During their conversations about culture, students were also able to guide their own learning with their e-pals as peers to progress within their ZPDs to a deeper understanding of both their own and other cultures. American students progressed from being able to *analyze* information about their own culture and

explain it to their partners to *synthesizing* new information to reach new understandings and meanings about the topic. In some cases, students could *evaluate* those new meanings through comparison and assessment. The findings about both linguistic and ZPD scaffolding suggest that such an e-mail exchange is an ideal context for FL learners to engage in student-centered learning about culture that could lead to higher-order thinking.

Finally, according to surveys, the exchange was enjoyable to more than half of the students and they felt that they learned about other cultures and improved their writing during the semester due to the weekly e-mails. For exchanges conducted on a smaller-scale where the responses of the foreign e-pals could be better regulated, it is likely that the percentage of students who enjoyed the exchange would escalate because their partners would be more reliable at responding. For FL teachers looking for ways to encourage students to think independently, work collaboratively, guide their own learning about culture, and have the opportunity to match their interlanguage more closely to the target language, an e-mail exchange, with either native or nonnative speakers of the target language, seems to be an ideal way to attain these goals.

Chapter 5: Conclusion

Although there were very few quantitative no differences between the two groups of students and e-pals in terms of amounts of negotiation of meaning, scaffolding, and attitudes, the qualitative findings about the e-mail exchanges provide much information about how students learn through negotiation of meaning and scaffolding that takes place in e-mail dialogues. After reviewing these findings, I discuss some new questions future research should address, as well as how the results can inform foreign language pedagogy.

NEGOTIATION OF MEANING

The findings in this study pertaining to negotiation of meaning do not agree with the research conducted by Varonis and Gass (1985) that compares NS/NNS and NNS/NNS communication. They found that there was more negotiation in the NNS/NNS group, whereas the current data revealed a few examples of negotiation of meaning in both NS-NNS and NNS-NNS groups and no apparent difference between the two groups. The difference between the current results and the findings of Varonis and Gass (1985) is likely due to the different context in which the conversations in my study took place. Whereas the

subjects in the studies by Varonis and Gass were engaged in face-to-face communication, my students e-mailed weekly with their e-pals. In an e-mail environment, participants are less constrained to answer questions in regard to misunderstandings. In a face-to-face conversation, ignoring a question would be perceived as breaking the rules of Grice's cooperative principle (1975), however in an e-mail, it is more acceptable to ignore questions because the same rules do not apply to a conversation that is not in real-time. Thus, abandoning a communicative breakdown might be more acceptable than repairing it in slow-motion.

Even though there were no quantitative differences between the two groups in regard to negotiation of meaning, there were two qualitative differences. In the NNS-NNS group, both e-pals asked questions about content and culture, however in the NS-NNS group, the NS e-pals asked more questions about culture, while the NNS students asked more questions about vocabulary meaning. It appears that NNS-NNS pairs had fewer questions about vocabulary and negotiated more about culture and meanings. The NSs also asked about culture, but their American NNS e-pals asked more questions about the meanings of certain vocabulary words. These results suggest that the American students with NS e-pals viewed their partners as experts of the German language whom they could ask specific questions about the language not experts of the German culture. Although in many cases NNS e-pals' German was more proficient than that of

their American counterparts, students with NNS e-pals did not view their partners as experts of German, but rather that of their own culture and used them as a resource to find out more about the NNSs' native culture.

SCAFFOLDING

The examples of students in both groups incorporating their e-pals' syntax, vocabulary, and topics were almost the same. Although there were no quantitative differences between the two groups, the fact that students had the opportunity to learn new vocabulary and syntax from their e-pals and incorporate it into their interlanguage is noteworthy. Bakhtin points out that language only becomes our own through ventriloquation, reading or hearing new words and/or phrases and then using them in our own new contexts in order to incorporate them into our language and make them our own (1981 pp. 293-294).

> The word in language is half someone else's. It becomes "one's own" only when the speaker populates it with his own intention, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention. Prior to this moment of appropriation, the word does not exist in a neutral and impersonal language (it is not, after all, out of a dictionary that the speaker gets his words!), but rather it exists in other people's mouths, in other people's concrete contexts, serving other people's intentions: it is from there that one must take the word and make it one's own.

Through scaffolding, students were able to learn new vocabulary in context and then apply it to their own new context to make it part of their German vocabulary. Even though they might have been repeating words and phrases, Bakhtin claims that these repetitions are still new utterances (1986 p. 108):

> Two or more sentences can be absolutely identical; moreover we must allow that any sentence, even a complex one, in the unlimited speech flow can be repeated an unlimited number of times in completely identical form. But as an utterance (or part of an utterance) no one sentence, even if it has only one word, can ever be repeated: it is always a new utterance (even if it is a quotation).

The students were able to practice discussing new topics similarly to how they learned new vocabulary and syntax. Although they did not always repeat new words and phrases that their e-pals used during the discussion of various topics, they were able to explore new topics while employing utterances in the target language and practice explaining and discussing cultural topics they may have never had the chance to converse about in their FL class. Normally in the FL classroom, the topics are chosen by the book and/or the teacher and are not necessarily themes about which the students are enthusiastic. Since students were allowed to both choose and guide their own topics in the e-mail exchange, they could learn the vocabulary they were most interested in acquiring, while focusing on engaging topics. Being involved in a conversation where their participation was necessary for the discussion to progress, students were forced to become involved in double-voicedness (Kramsch 1993). Through dialogue with other speakers of German, whether NS or NNS, "learners discover which ways of talking and thinking they share with others and which are unique to them" (Kramsch 1993). Students developed their double-voicedness as they realized "that utterances are not self-sufficient and that they "are aware of and mutually

reflect one another" (Bakhtin 1986). One utterance would provoke another until students could not help but be involved in both listening to their e-pal and responding to his utterances. This obviously took place during the e-mail exchange as e-pals explored their cultural stereotypes and shared cultural information with each other, ultimately in some cases reframing their ideas about their own cultures.

Kramsch (1993) argues that FL education has historically been based on single-voiced discourse where students are solely concerned about their own language development measured according to the communicative competence of the native speaker. In double-voiced discourse, in comparison, however, the speaker is interested both in her own linguistic development as well as the utterances of her conversation partner. In this way, the contributions of both speakers are significant and help to mold the subsequent dialogues of the participants. Kramsch claims that only after learners understand the importance of both their own and their speaker's utterances can they become "speakers in their own right" (p. 28). Students must be taught to see themselves both as a "social and individual speaker" (p. 28) in the FL classroom, which Kramsch contends leads to the manifestation of culture in the classroom.

Although the e-mail exchange did not take place directly in a FL classroom, the double-voicedness students learned through their dialogue with another German speaker could be later incorporated into the FL classroom.

Students realized through their e-mails that in order to have a conversation, it is necessary for the interlocutors to both listen (read) to what the other participant says and in some way incorporate that utterance into a response to continue the dialogue. They were no longer able to rely on the teacher to choose the topic and tell them how to develop it, but students had to decide on and/or develop their own topics while considering their e-pals in the decision of how to progress in the dialogues. Students illustrated their double-voicedness through topic, syntax, and vocabulary scaffolding in addition to when they scaffolded with their partners within their zones of proximal development to reach a deeper understanding of a cultural topic.

ZPD SCAFFOLDING

Another way in which students developed double-voicedness in the e-mail exchange was by scaffolding within their zones of proximal development to reach understandings and provide explanations that they would not have been able to attain without the assistance of their e-pals. According to sociocultural theory, tools are used on the social plane to mediate higher mental functioning (Vygotsky 1978). Students used the German language as their tool to mediate two types of learning: both to increase their proficiency of German and to advance cognitively to deeper understandings of their own culture and the culture of their e-pal. In both of these learning situations, the knowledge first manifested itself on the

social plane within the e-mails, and then was transferred to the internal plane, in concordance with Vygotsky's theory (1978):

> Any function in the child's cultural development appears twice, or on two planes. First it appears on the social plane and then on the psychological plane. First it appears between people as an interpsychological category, and then within the child as an intrapsychological category. . . . It goes without saying that internalization transforms the process itself and changes its structure and functions. Social relations or relations among people genetically underlie all higher functions and their relationships.

In the study, this inter- and intrapsychological development was evident through examining how students progressed through the levels of Bloom's taxonomy from analysis, explaining a topic to their e-pals (interpsychological), to synthesis, interpreting their e-pal's comments in order to come to a new understanding of that topic (intrapsychological), and in some cases reaching evaluation, where students evaluated what their e-pal reported in order to reach new conclusions about their own American culture (intrapsychological).

FUTURE RESEARCH

Since there were so few examples of negotiation of meaning, these findings are in no way conclusive, but rather qualitatively describe negotiation of meaning between NS-NNS and NNS-NNS in an e-mail exchange. In order to get more information about the kinds of questions students ask their e-pals, further research could include examining all the questions students and their e-pals ask each other and categorizing them according to culture, meaning, or vocabulary.

This would show the differences between what the American and foreign e-pal is interested in learning from his partner and what kind of topics they tend to focus on. In addition, since students were more reliable at answering their e-pal indicators of misunderstanding than their e-pals were, the e-mails could be evaluated focusing on the questions and who was more dependable about answering questions in general, not just questions in regard to clarifications. In order to further explore negotiation of meaning in computer-mediated communication, a similar study could be conducted in the context of synchronous chats to test whether Grice's cooperative principle is more applicable there because it is more similar to a face-to-face conversation. One important variable in that study would likely be how many people were in each chat group. The more people chatting, the easier it would be to ignore a misunderstanding (Foster 1998), which would lead to less negotiation of meaning and less hypothesis testing of the interlanguage. Finally, in order to find out why there were so few examples of negotiation, students could be asked in a future study whether they understand everything their e-pals say or whether they just do not feel comfortable or motivated enough to ask their e-pals for clarification.

In terms of scaffolding there are several questions brought up by this study. In order to test how much students incorporated their newly learned vocabulary and syntax into their interlanguage, one could search their other writing assignments completed during the time-frame of the e-mail exchange for

examples of transfer of new knowledge. The same could be done for the topics they discussed in their e-mails. Since students have new information about various cultural topics after the e-exchange, it seems likely that they would be excited about incorporating that new knowledge into class writing assignments. After exchanging several e-mails about a certain topic, students should feel comfortable writing an essay on a similar topic for which they have already learned specific vocabulary and synthesized new information. One could also investigate if students are more proficient at connecting topics in face-to-face communication after an e-mail exchange, since students received so much practice at topic shift, initiation, and continuance. Elaboration and re-direction skills could be examined as well, given that the e-mails did not follow the typical classroom pattern of the teacher asking a question, the students responding, and the teacher providing feedback. In order to investigate whether students internalized the experience they received providing their e-pals with explanations about different aspects of their lives and culture, their essays could be analyzed according to how well students developed their argumentation, explanation, clarification, and narration skills or students could be interviewed to find out what they learned from the exchange.

Because of the problems with attrition of e-pals and students, I would suggest conducting the e-mail exchange again on a smaller scale so that it would be easier to find and keep track of reliable e-pals or ideally with members of

another class where both supervising teachers are in contact and able to monitor their students' e-mail writing. In the five cases where I was in contact with the classroom teacher of some of the e-pals and especially in the 3 classes where e-mailing was part of the curriculum, I could inform the teachers when an e-pal was not responding and they could encourage the student to respond. In cases where the e-pals were single volunteers, I could only send an e-mail asking where they were, and I often received no response just as the UT student partner had not. When I conduct such an exchange again on a smaller scale, with only one class instead of 8 classes, I will find an entire foreign class that is also willing to participate in the exchange and coordinate everything with the classroom teacher to ensure that the exchange runs smoothly with partners corresponding weekly. Having e-pals who definitely write back every week could change the whole mood of the exchange and therefore provide different results.

Whether a future study is large or small-scale, another amendment could be to teach discourse strategies to the students before the exchange begins, such as topic shift and initiation and asking questions, in order to investigate if students would communicate more successfully and if the e-pals would be more engaged in the conversation as a result of this training. Students complained that they did not know what to talk about in their e-mails. If the study were conducted with a specific class, each class, both American and foreign, could read and discuss the same text and their interpretations of it. This would give students a foundation on

which to base the e-mails, which could lead to them discussing other related topics. Finally, in order to find out what students really felt they learned from the exchange, they could be asked to keep a weekly journal of new vocabulary and facts they learned from their e-pal as well as how they felt about the exchange. This would provide some insight into their motivation toward the exchange and could be analyzed using activity theory. According to activity theory, how people approach a task depends on the context in which the task is completed (educational or leisure) and why the task is done (for a grade or for pleasure or both) (Lantolf & Appel 1996). Examining students' journals about the exchange would reveal how students' attitudes about the exchange affect their involvement and motivation in the weekly dialogues (Gillette 1996). Overall the largest limitation of the study was the amount of e-pals who did not participate in the exchange as regularly as was expected which led to several of the American students losing interest in the exchange and generally having negative feelings towards their e-pal and writing e-mails. This could easily be corrected by incorporating the suggestions listed above; most classroom application is on a smaller scale anyway.

PEDAGOGICAL IMPLICATIONS

In addition to providing suggestions for further research, this study also raises issues that are relevant for the FL classroom in terms of student enjoyment, the acquisition of culture, and the teaching of discourse strategies. According to

the student surveys, most students enjoyed the e-mail exchange and felt they learned something from it in regard to both language and culture. Students who did not respond positively to the survey reported frustrations at having to wait, sometimes in vain, for their e-pal to respond. Students also reported that they felt their writing improved from the exchange. From a purely affective perspective, the positive results informs teachers that engaging in such an e-mail exchange in their FL classes is an enjoyable project for students, especially if carried out on a smaller scale with another class of students who are assured of responding, perhaps via synchronous chat if the international time difference could be accommodated. Quite a few students responded that they planned to stay in touch with their e-pals; one student even went to visit her e-pal in Berlin after the exchange was over.

The results of this study highlight that an important component of FL learning is to gain knowledge of discourse strategies, in addition to grammar and vocabulary. Even though students might have all the necessary vocabulary and grammar they need to engage in a conversation, if they do not know how and when to ask questions, begin or conclude a conversation, or initiate or shift topics, they will not feel equipped to converse. This is something students do not often practice in FL classrooms because the teacher normally asks the questions, tells students when to start and finish conversations, and decides on the topics students are to discuss; thus when students finish discussing one topic, the task is complete

(Brooks 1992). Foreign language teachers are not only models of the L2, but that they are also social models of how one interacts in the L2. It is therefore their responsibility to introduce students to different discourse strategies and to provide them with opportunities to apply these strategies in different interactional contexts (Kramsch 1987). Through this practice, students will learn how to direct and mediate their own conversations in the FL to become better communicators in the target language and perhaps even in their own, and help them to feel more secure about their language abilities.

Although students were able to practice discourse strategies in the e-mails, the question remains whether some students would have had more enjoyable exchanges or even if some of the less reliable e-pals would have e-mailed more regularly if they had been more adept at applying the rules of conversation in German. From analyzing the e-mails of less proficient students, I noticed that these students had trouble knowing what to write and how to write it. They did not know how to begin the e-mail, how to talk about themselves, how to initiate other topics, or how to ask their e-pals questions. Bakhtin asserted that even though people might be completely fluent in a language and have an excellent command of that language, there are still speaking situations in which speakers feel uncomfortable because they do not have access to the appropriate speech

genres[14] for certain contexts (1986). Many FL learners do not even have the advantage of being fluent in the target language. Although more proficient students are more successful at transferring their native language discourse strategies into the FL language (del Pilar & Mayo 2000), less proficient students need to be reminded and trained how to do this.

Finally, although this type of exchange seemed not to be well-suited for encouraging the negotiation of meaning, it is an ideal way for students to learn about culture. Through such a learner-centered e-mail exchange, students are able to focus on the cultural topics they wish to discuss and learn more about. As was illustrated, students not only learn more about another culture, in some cases they reinterpret their opinions and understandings about their own culture and view an aspect of American culture in a new way. This type of cultural understanding does not come from a textbook or lecture. Whether through an e-mail exchange or some other method, students need the opportunity to explore culture to come to their own understandings about culture rather than cultural facts being provided for them. When students are able to develop ideas about culture on their own, they also have the opportunity to realize that culture is a subjective entity that changes according to who is interpreting it. During this learning process, students also engage in higher order thinking, which is sometimes lacking in the FL

[14] Speech genres can be defined as "ordered systems for using linguistic signs to mediate ways in which people learn to think in certain social settings" (Hoel 1997).

classroom due to the students' elementary level of language, which often requires the discussion of basic topics.

From the e-mail exchange, students, some of whom had never left the country, developed a relationship with someone from a different country in German showing them first that they are proficient enough in German to communicate and understand ideas and second that they have similar interests and ideas to someone from a different culture. If learners take nothing else from the FL classroom, meeting and getting to know someone from another culture could be enough to positively influence their intercultural communication skills and former stereotypes about other cultures.

In conclusion, this study illustrated that from engaging in a semester-long e-mail exchange with either a native or nonnative speaker, students gain practice in managing authentic interactions (a practice to which they normally do not have access in the FL classroom), engage in higher level thinking about cultural topics, add new vocabulary, syntax, and topics to their interlanguage, and through communicating in German make a new friend in another country. This development is due to the active negotiation of meaning, linguistic scaffolding, and ZPD progression in which students are engaged during the e-exchange. The rich context and language practice available in the e-mail exchange provides for the building of new meanings, both in regard to culture and language, all navigated by the e-pal participants in the exchange.

Appendices

CLASS SYLLABUS

German 312K
Third Semester German---Fall 2001

Welcome to German 312K! German 312K is a third semester course for students who have completed GER 507 or 508K at UT Austin (with a grade C or better) or who have been advised to take it as a result of the AP Exam or UT German Placement Exam. This course continues where GER 507 and 508 K left off. The course will help you develop reading, writing, listening and speaking skills with activities both inside and outside of class.

German 312K is a three-credit course that meets Mondays, Wednesdays and Fridays. How much time you should spend studying outside of class depends on a number of individual factors such as your linguistic aptitude, self-discipline, attitude toward studying, attitude toward learning a foreign language, attitude toward German, etc. If you expect to earn an A in this course you will need to spend close to two hours working outside of class for every hour in class, and you will need to use that time efficiently. Your instructor can offer some tips on how to study effectively.

Required texts: Deutsch zusammen. 3rd Edition. Tutorial Homework Book (**Lernheft**)
Deutsch zusammen. 3rd Edition. Textbook.

Was ist Deutsch? Leblans et al. (2000) Published by Houghton Mifflin.

Be sure you get the **3rd edition** of Deutsch Zusammen, published by Simon & Schuster. They are available at the CO-OP

Tapes: Full preparation for class involves listening to taped sections of the book.

Testing and Evaluation

All German 312K students are evaluated according to the same criteria:

A. **40% - 3 fifty-minute tests after each chapter.** The first test counts for 10% of the final grade, each of the other two chapter exams counts for 15% of the final grade.
B. **10% - 1 oral examination.** The oral exam will be administered to you by a different instructor toward the end of the semester.
C. **10% - Quizzes.** There will be weekly quizzes to accompany the texts we read from Was ist Deutsch? These will be posted on the web in Blackboard and you will be expected to complete the quiz before coming to class on the day we will be discussing the texts (normally Wednesdays). There will also be paper quizzes on topics from Deutsch Zusammen.

D. 20% - Class participation and hand-in homework . Your instructor will inform you in writing about how he or she will evaluate this 20% of the course grade. This grade will include participation and attendance, hand-in home-work, the text reactions, and other assignments.

E. 10% - E-mails: During this semester, you will have the opportunity to meet native speakers of German through an e-mail exchange. Rather than practicing your newly learned German with only your classmates, you will write and send an e-mail to one specific E-mail "pen-pal" once a week to find out his/her opinion and experiences regarding the various cultural topics we discuss in class. You should take these E-mails very seriously; your partner is expecting to hear from you and looking forward to the exchange so please do not disappoint him/her by not completing the assignment. Hopefully this e-mail exchange will give you the chance to make a new friend with whom you will communicate even after this class is over and will allow you to learn about another culture form someone currently living in that culture. Turn in both your e-mail and your partner's response from the previous week in order to get credit for the assignment. If after two weeks your partner has not responded to your E-mail, let your instructor know, so s/he can reassign you.

F. 10% - 1 Writing/Composition assignment determined by your instructor. This written assignment must be 1.5-2 pages long and typed (one inch margins, 12 point font). The topic will be based on the two text reactions you wrote earlier in the semester. Use a computer to facilitate making corrections to your draft.

There is no final exam during the final exam period in GER 312K due to the cumulative nature of all of the tests you take. All standard written tests are 50 minutes long. The test will start and end for all students at the same time. Even if you show up late for a test, you will have to finish it at the same time as the other students. If you fail to show up for any exam at the appointed time without having obtained permission from your instructor in advance of the test, you will not receive any credit for the test. Emergencies that can be substantiated to the satisfaction of your instructor will be treated as exceptions.

Special exceptions and exemptions

The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. To determine if you qualify, please contact the Dean of Students' Office at 471-6259; 471-4641 TTY. If they certify your needs, your instructor will work with you to make appropriate arrangements for in-class quizzes and exams. You must meet all other deadlines for course assignments.

Students who visit the Health Center will be excused for an absence on that day. Students who are hospitalized or who must stay home on the advice of a physician due to an extended illness must show proof (e.g., doctor's note on office letterhead with telephone number) to have their absences excused. Students who must leave the university for a family emergency should inform the instructor immediately, and before departure if possible. Keep your instructor informed and ask a peer to take notes for you.

Formula for success

Students who prepare thoroughly for class (1-2 hours every day) are almost always successful in this course and enjoy it because they stay on top of the material, which allows them to participate actively and fully in class, which strengthens their language skills, which, in turn, leads to higher

grades. Participate fully in class (e.g., volunteer frequently), and don't worry too much about making mistakes. Making mistakes is an integral part of learning any language.
Students who do not prepare for class regularly will not be able to follow what's going on in class; absences will take a toll on test performance and grades. So, keep up with the work and ask questions!

Do you want or need help?

If you need help you can seek assistance from your instructor during his or her office hours, or you can go to the German Tutorial Study Hall, staffed by graduate students, for **free** tutorial assistance. It's located on the 4th floor of the E.P. Schoch Bldg. (Room 4.132) and is open every day for almost all hours from 8:00 a.m. to 5:00 p.m. (see schedule of hours on door). The instructors can help you with written or oral work, vocabulary, reading, homework or any other questions you might have.

Your next course:
When you complete GER 312K with a grade of C or higher, you are eligible to take GER 310 (conversation), GER 312L or GER 312W (business German).

Upper division German, majoring/minoring, special programs

If you have any questions about study abroad opportunities, summer study in Taos, NM or Germany, or about majoring or minoring in German, see Dr. Frank Donahue**,** Undergraduate Adviser for German. His office is 3.136 E.P. Schoch Building; you can contact him by phone at 471-4123 or 232-6367 or by E-mail at donahue@mail.utexas.edu.

Opportunities to speak German

Ask your instructor for a schedule of times when the following groups meet for informal discussions **IN GERMAN!!!**

1) Deutschübende Gesellschaft (held weekly in EPS 4.104)
2) Stammtisch (held weekly, usually at the Cactus Café in the student union)
3) Form your own group of GER 312K speakers!

312K Stundenplan

You should read the assigned material in the **Lernheft** thoroughly, learn the new vocabulary, complete the assigned exercises, and check your responses to them in the answer key in the back of the **Lernheft** before coming to class. You should enter the classroom ***ready to use*** the language learned in the assignment at home. After you complete the assignment in the **Lernheft,** skim over the parallel section **(Teil)** in the class textbook**.** The section under the heading **Merke** consists of a brief review of the key material presented in the **Lernheft**. Make this skimming the last step when you do your homework and the first step after you settle down in class the next day. The pronunciation exercises are on tape.
Unless your instructor notes otherwise, the homework listed below is from the Lernheft itself: complete all assigned exercises. However, your instructor may hand out a different assignment (e.g., a short essay, a reading passage, drawing, etc.); in this case, use the Lernheft vocabulary and grammar descriptions of that day to guide you in your task.

Phase I – Review

Aug. 29	Introduction to Course, Review Kapitel 1-2
Aug. 31	Review Chapters 1-5

	HW: Read the Alles Zusammen section at the end of each chapter in the class text. Review specific Teile as needed. Turn in: Chapter 1, p. 18, exercise A Chapter 2, p. 40, exercises A, B (4 questions), D (3 commands) Chapter 3, p. 63, exercises A, B Chapter 4, p. 83, Fragen (evens) Chapter 5, p. 107, Fragen (odds)
Sept. 5	Chapters 6-8 HW: Read the Alles Zusammen section at the end of each chapter in the class text. Review specific Teile within each chapter as needed. Turn in: Chapter 6, p. 130, exercises A (evens) and B Chapter 7, p. 153, exercise B, letter c Chapter 8, p. 176, exercise B
Sept. 7	Chapter 9 HW: Read the Alles Zusammen section at the end of each chapter in the class text. Review specific Teile within each chapter as needed. Turn in: Chapter 9, p. 193, exercise B, combine #s 2 & 3 and don't forget to write in simple past.
Sept. 10	Chapter 10 HW: Read the Alles Zusammen section at the end of each chapter in the class text. Review specific Teile within each chapter as needed. Turn in: Chapter 10, p. 212, exercise A (evens)
Sept. 12	Chapter 11 HW: Read the Alles Zusammen section at the end of each chapter in the class text. Review specific Teile within each chapter as needed. Turn in: Chapter 11, p. 236, exercise B, #2
Sept. 14	Chapter 12 HW: Read the Alles Zusammen section at the end of each chapter in the class text. Review specific Teile within each chapter as needed. Turn in: Chapter 12, p. 271, exercise A (evens)
Sept. 17	Review Chapters 1-12
Sept. 19	**Test 1** on review topics
Sept. 21	Meet in computer lab to discuss Blackboard

Phase II – Was ist Deutsch? und Identität

Readings	Grammar	E-mail Topics

Sept. 24	Was ist Kultur? Was ist amerikanisch? HW: Write a paragraph in which you define culture and the American culture.		
Sept. 26	*Dein Nachbar nur ein Ausländer?* *Ausländer raus!* HW: page 12 – Fragen zum Text, 1 & 3. Complete Quiz on Blackboard.		
Sept. 28	Kulturschock HW: page 16 - Fragen zum Text,1, 3, 4.		
Oct. 1	*Heimat: Tiefer, größer, weiter als wir selbst . . .* HW: Introduce yourself in an e-mail and include some of your thoughts from our class discussions last week and send it today.	14,1 HW: Complete Lernheft assignment. Turn in *Du bist dran*.	Was ist amerikanisch?
Oct. 3	*Heimat* HW: page 35 – Fragen zum Text, 2, 3, 4, 5, 6 Complete Quiz on Blackboard.	14,1	
Oct. 5	*Heimat*	14,2-3 HW: Complete Lernheft assignment. Turn in *Du bist dran*.	
Oct. 8	*Das Deutschlandlied* HW: Write e-mail based on class discussions and send it today.	14,4-5 HW: Complete Lernheft assignment. Turn in *Du bist dran*.	Heimat
Oct. 10	*Das Deutschlandlied* HW: page 41 – Fragen zum Text, 1-3 Complete Quiz on Blackboard.	Review Chapter 14	
Oct. 12	*Das Deutschlandlied* **HW: Text reaction 1 due.**	15,1 HW: Complete Lernheft assignment. Turn in *Du bist dran*.	

Oct. 15	*Rosskastanian* HW: Write e-mail based on class discussions and send it today.	15,2-3 HW: Complete Lernheft assignment. Turn in *Du bist dran*.	Nationalismus, Stolz auf dein Land
Oct. 17	*Rosskastanian* HW: page 55 – Fragen zum Text, 1, 2 , 4, 5, 7.Complete Quiz on Blackboard.	15,1-3	
Oct. 19	*Rosskastanian*	15,4-5 HW: Complete Lernheft assignment. Turn in *Du bist dran*.	
Oct. 22	Meet in computer lab HW: Write e-mail based on class discussions and send it today.		Staatsburgerschaft
Oct. 24	Review for test		
Oct. 26	**Test 2** on chapters 14 and 15 and text topics		

Phase III – Ausländer und die Wende

Date	**Readings**	**Grammar**	**E-mail Topic**
Oct. 29	*Ich wünsche den Deutschen mehr Lächeln* HW: Write e-mail based on class discussions and send it today.	16,1-2 HW: Complete Lernheft assignment. Complete *Du bist dran* only for Teil 16,2.	Open topic
Oct. 31	*Lächeln* HW: page 70 – Fragen zum Text, 2, 3, 4 Complete Quiz on Blackboard.	16,1-2	
Nov. 2	*Lächeln*	16,3 HW: Complete Lernheft assignment. Turn in *Du bist dran*.	
Nov. 5	*Die Grenze ist offen* HW: Write e-mail based on class discussions and send it today.	16,4-5 HW: Complete Lernheft assignment. Turn in *Du bist dran*.	Kulturelle Normen
Nov. 7	*Die Grenze ist offen* HW: page 109 – Fragen zum Text, 1-3. Complete Quiz on Blackboard.	16,4-5	
Nov. 9	*Die Grenze ist offen* HW: **Text reaction 2 due.**	Review Chapter 16	

Nov. 12	*Minenfelder und Wachtürme* **HW: Write e-mail based on class discussions and send it today.** Start orals this week.	17, 1 HW: Complete Lernheft assignment.	Tag der Fall der Mauer
Nov. 14	*Minenfelder* HW: page 114 – Fragen zum Text, 1-4. Complete Quiz on Blackboard.	17,1	
Nov. 16	*Minenfelder*	17,2-3 HW: Complete Lernheft assignment.	
Nov. 19	HW: First draft of essay due.	17, 2-3	
Nov. 21	(Thanksgiving)		
Nov. 26	*Von Deutschland nach Deutschland: Endstation Eisenach* HW: Write e-mail based on class discussions and send it today.	17,4-5 HW: Complete Lernheft assignment. Turn in *Du bist dran*.	Die Wende
Nov. 28	*Eisenach* HW: page 121 – Fragen zum Text, 1-4. Complete Quiz on Blackboard.	17,4-5	
Nov. 30	*Eisenach*	Review chapter 17	
Dec. 3	Computer lab – synchronous chat about e-mail topics HW: Write e-mail to say goodbye or decide how to continue communication with your partner.		Wrap-up
Dec. 5	Review for test HW: Final draft of essay due.		
Dec. 7	**Test 3** on Chapters 16 and 17 and text topics		

STUDENT CONSENT FORM

German 312K and 312L – Fall 2001

Computer-Mediated Communication in Language Learning: Does it really make a difference?

Purpose: You are being invited to participate in the above-titled research project. My name is Lara Ducate, M.A. and I am an Assistant German Instructor at The University of Texas at Austin. This study is a dissertation research project and its purpose is to investigate how technology affects language learning.

Selection Criteria: You are being asked to participate in the study because you are a student in second-year German this semester. Approximately 150 students will participate in this study. If you choose not to participate, this will have no negative consequences on your grade. Participation is voluntary.

Procedures: The study will begin October 1, 2001 and end at the end of the fall 2001 semester, December 7, 2001. If you agree to participate, you will be asked to do nothing more than what is already on your German 312K or 312L syllabus.

Risks: There are not physical, emotional, social, or psychological risks associated with this study.

Benefits: You will have the opportunity to reflect on the advantages and disadvantages of the use of computers in language learning at the University of Texas at Austin.

Confidentiality: Any information that is obtained in connection with this study and that can be identified with you will remain confidential. Your responses will not be linked to your name in any written or verbal report of this research project.

Authorization: Your decision to participate or not to participate will not affect your present or future relationship with the University of Texas at Austin. You may ask questions at any time and you are free to withdraw from the study at any time. You may call me at 232-6380 or my supervisor, Frank Donahue, Ph.D. at 471-4123 whenever you have questions. You will be given a copy of this consent form for your records.

Circle one: I wish to participate in this study. Yes No

_____	_____	_____
Signature of Student	Printed Name of Student	Date

CONSENT FOR NS OR NNS FOREIGN E-PALS

Liebe Teilnehmer/in,

Vielen Dank fuer Ihr Interesse und Ihre Beteiligung an dem E-mailaustausch dieses Semester. Ich weiss, dass meine Studenten viel dabei gelernt haben und, dass es ihnen viel Spass gemacht hat. Hoffentlich hat er Ihnen auch gefallen. Die Studenten werden am 3. Dezember die letzte kursbezogene E-mail schicken, aber wenn Sie weiterschreiben möchten, dann bitte machen Sie das. Es würde mich sogar freuen, wenn Sie sich dazu entscheiden würden, den E-mailkorrespondenz weiterzuführen.

Wie Sie wissen, war dieser Austausch Teil einer Dissertationsstudie bei der ich E-mails zwischen Muttersprachler/Nichtmuttersprachler und zwischen Nichtmuttersprachler/Nichtmuttersprachler analysieren und vergleichen möchte.

Sie sind einer von circa 150 Teilnehmern die bei dem E-mailaustausch mitgemacht haben. Jetzt bitte ich Sie darum das beigefügte Formular auszufüllen. Ich möchte deshalb auch um die Erlaubnis bitten, Ihre E-mails in Verbindung mit den jeweiligen amerikanischen Partnere-mails zu lesen, zwecks Analyse und Datensammlung.

Aus dieser Arbeit können Ihnen keinerlei Schäden entstehen. Sie müssen nichts machen, außer das folgende Formular auszufüllen und es mir zurückzuschicken. Die Informationen, die im Zusammenhang mit dieser Studie gesammelt werden und durch die Sie identifiziert werden könnten, werden streng vertraulich behandelt und nur mit Ihrer Genehmigung veröffentlicht.

Ihr Name wird weder in den Analysen benutzt werden, noch im Druck erscheinen. Ihre Entscheidung an der Studie teilzunehmen, wird Ihre zukünftigen Beziehungen zu der Universität von Texas nicht beeinflüssen.

Falls Sie Fragen haben, werde ich diese vollständig und ehrlich beantworten. Falls Sie zu einem späteren Zeitpunkt noch Fragen haben, so können Sie sich auch an meine Mentoren Prof. Frank Donahue und Prof. Zsuzsana Abrams wenden, die beide als Professoren and der Universität von Texas tätig sind.

Adresse und Telefonnummer der zuständigen Professoren:
The University of Texas at Austin
Department of Germanic Languages
E.P Schoch Building 3.102
Austin, Texas 78712-1190
Telefon 011 (für USA) (512) 471-4123

Bitte beantworten Sie die folgenden Fragen. Erklären Sie Ihre Antwort so ausführlich wie möglich. Kopieren Sie bitte dieses Formular, fügen Sie es bitte in einer anderen E-mail ein und schicken Sie es mir bitte zurück. Ihre Antworten

sind völlig anonym. Wenn Sie mir diese E-mail zurückschicken, dann bezeugen Sie damit Ihre Genehmigung, die E-mails zu benutzen.

1. Name:
2. Geschlecht:
3. Alter:
4. Staatsangehörigkeit:
5. Wohnort:
6. Muttersprache:
7. Sprache, in der Sie sich am wohlsten fühlen:
8. Wenn Sie nicht Deutsche/r sind, wie lange lernen Sie schon Deutsch?
9. Was sind Sie von Beruf?
10. Wenn Sie Student/in oder Schüler/in sind, was werden Sie von Beruf?
11. Warum machen Sie bei diesem Austausch mit?

12. Hat der Austausch Ihnen was gebracht?

13. Würden Sie wieder sowas machen? Warum oder warum nicht?

14. Sonstige Kommentare?

STUDENT SURVEY

German 312K/L – Fall 2001

1. Name: 2. E-mail:

3. Major: 4. Year:

5. Years studying German: 6. Months spent in Germany:

7. Hours spent per week studying German outside of class:

8. In the past semesters that you have taken German, how often did you attend:
Tutorial study hall - _____ times per month
Deutschübende Gesellschaft or Stammtisch - _____ times per month

9. Why are you studying German? (Circle the response that best describes why)
1 To fulfill course requirements 2 better job prospects 3 family heritage 4 other _____ (explain)

10. In your opinion, what is your level of German?
poor fair good very good excellent

11. What is your main goal this semester in regard to learning German?

Please answer questions 10-12 by circling the amount of time you spend doing the following:

12. I read e-mail:
Never rarely once/week 2-4 times/week 5-6 times/week daily

13. I participate in on-line discussion groups:
Never rarely once/week 2-4 times/week 5-6 times/week daily

14. I use a computer for my assignments.
Never rarely once/week 2-4 times/week 5-6 times/week daily

15. Do you have internet access at home?

16. Are you a confident computer user?

17. Have you ever used Blackboard at UT?

18. Do you think that on-line communication (e-mail, chats) is a useful tool?

ORIGINAL GUIDELINES FOR E-MAIL ASSIGNMENTS

You will begin writing e-mails on October 1 and will have one e-mail and response due each Monday for the rest of the semester. Please turn in your e-mail for the current week and your partner's response from the previous week. You should send your e-mail by the time your class meets every Monday. The people you will be e-mailing are volunteers who are interested in learning more about the American culture and in making a new friend. They are not participating in this e-mail exchange as part of a class assignment so it is possible that they will not always respond during the week you send the e-mail. Please tell your instructor if your "e-pal" does not respond to your e-mail by the following Monday or if your "e-pal" does not write in German.

Your e-mails should be organized as follows:

1. *Answer any questions* your partner may have asked in his/her last e-mail regarding last week's topic. Ask for clarification if necessary or introduce follow-up questions to his/her questions.

2. *Explain briefly about our current discussion and text topics*. Keep in mind that your "e-pal" is not reading these texts, so s/he needs a little background knowledge on what we have been reading and discussing about this cultural topic.

3. *Define the e-mail topic*. Every week on the syllabus there is a word or phrase in the column titled e-mail topics. After you briefly discuss what we have read about the topic (#2), define what the word or phrase means to you.

4. Finally discuss *how the themes of the text relate to your culture and / or personal experiences you've had.* For example, have you ever been in or witnessed a situation similar to one we read about or have you ever felt like one of the characters from the texts? Or what have you noticed about American culture (or your own culture if you are not from the United States) in regard to the text topic?

5. *Ask your e-pal any questions* you may have for him/her in regard to the week's topic.

MODIFIED GUIDELINES FOR E-MAIL ASSIGNMENTS

Based on some feedback we have received from you all and from reading the e-mails you have written and received so far, we have decided to change the e-mail guidelines to make them less restricting. You will still have one e-mail and response due each Monday for the rest of the semester, but the topics will be more open.

Topics: You may write about the topics we discuss in class, topics that come up in your e-mails, or other topics that you would like to address with your partner. At the end of the semester, when you write your final composition, you will compile all of the information you discussed throughout the semester in order to introduce your partner to us and to summarize the discussions you had with him/her.

What to include in the e-mails:

1. *Answer any questions* your partner may have asked in his/her last e-mail regarding last week's topic. Ask for clarification if necessary or introduce follow-up questions to his/her questions. This could blend into #2.

2. *Explain a topic you are interested in and why and how it might relate to your partner AND/OR continue the topic from last week.* Why did you decide to discuss this topic with your epal? Why would s/he be interested in this topic? How do the topics you are discussing relate to your culture and / or personal experiences you've had? What have you noticed about American culture (or your own culture if you are not from the United States) in regard to the e-mail topic? If you don't have anything to discuss with your partner, you can always discuss a topic from one of the texts we've read.

3. *Ask your e-pal any questions* you may have for him/her in regard to the week's topic. This is a very important part of the e-mail because if you don't ask your epal questions, s/he might not know what to write back to you.

Grading the e-mails:

You will still receive 15 points per e-mail, but the grade will be for the entire e-mail, not a compilation of the scores you receive on the different parts.

The points will be determined as follows:

<u>11-15 points</u>
- partners' questions answered in detail

- texts or opinions clearly explained with examples from the texts, your life, or your culture
- several well thought-out questions for your "e-pal"

6-10 points
- examples given, but they are unclear, not well developed or not explained
- opinions not well supported
- few or superficial questions to "e-pal"

1-5 points
- few details or facts included
- no explanation or examples to support opinions
- no questions to "e-pal"

MÖGLICHE E-MAILTHEMEN

Some of you seem to be having a hard time coming up with topics for your e-mails, so here is a list of some ideas you can choose from if you are at a loss. You can still talk about any of the ideas that come up in the texts or other ideas you might have. For any of these topics you might discuss, remember to first write about your opinions about the subject and then ask your partner about it.

Der Euro
Religion
Familie
Reisen
Minoritäten
Feiertage
Gesundheitsversicherung
Sozialhilfe
Berufe
Das Studium
Lebensstil
Alkoholkonsum
Kindheit
Geschichte von Filmen, Musik, oder Kunst
Lage der Frauen
Umweltverschmutzung/schutz
Die Europaische Union
Sternzeichen
Ende des kalten Krieges
Regierung – liberal oder konservativ?
Literatur
Geschichte
Geschlechterbeziehungen (Heiraten, Dating, Sexualitat)

SURVEY RESULTS ABOUT WRITING

I feel my writing skills have improved this semester partly due to writing and receiving e-mails.	NS total	NNS total	NS %	NNS %
Strongly agree	14	8	25.5	13
Agree	23	34	41.8	54.8
Neutral	9	11	16.4	17.7
Disagree	6	9	11	14.5
Strongly disagree	3	0	5.5	0

Writing e-mails has given me the chance to practice some of the grammar we have learned in class.	NS total	NNS total	NS %	NNS %
Strongly agree	14	7	25.5	11.3
Agree	29	38	52.7	61.3
Neutral	8	14	14.6	22.6
Disagree	4	3	7.2	4.8
Strongly disagree	0	0	0	0

I learned new phrases and/or vocabulary from my e-pal.	NS total	NNS total	NS %	NNS %
Strongly agree	11	5	20	8
Agree	28	31	51	50
Neutral	7	15	12.7	24
Disagree	9	10	16.4	16
Strongly disagree	0	1	0	1.6

E-mailing has provided me with different ways to use my German.	NS total	NNS total	NS %	NNS %
Strongly agree	11	13	20	21
Agree	30	30	54.6	48.4
Neutral	12	10	21.8	16.1
Disagree	1	6	1.8	9.7
Strongly disagree	1	3	1.8	4.8

I could creatively express my opinions in the e-mails I wrote.	NS total	NNS total	NS %	NNS %
Strongly agree	11	8	20	12.9
Agree	30	36	54.6	58.1
Neutral	8	11	14.6	17.7
Disagree	6	4	10.9	6.5
Strongly disagree	0	3	0	4.8

SURVEY RESULTS ABOUT CULTURE

I have learned about German culture through this e-mail exchange.	NS total	NNS total	NS %	NNS %
Strongly agree	9	0	16.4	0
Agree	30	13	54.6	21
Neutral	9	17	16.4	27.4
Disagree	6	25	10.9	40.3
Strongly disagree	1	7	1.8	11.3

I learned about other cultures from my e-pal.	NS total	NNS total	NS %	NNS %
Strongly agree	8	9	14.6	14.5
Agree	21	32	38.2	51.6
Neutral	13	16	23.6	25.8
Disagree	11	4	20	6.5
Strongly disagree	2	0	3.6	0

Writing e-mails has helped me to think about American culture in new and different ways.	NS total	NNS total	NS %	NNS %
Strongly agree	10	3	18.2	4.5
Agree	23	34	41.8	54.8
Neutral	18	17	32.7	27.4
Disagree	4	8	7.3	12.9
Strongly disagree	0	0	0	0

I wish I had learned more about German culture this semester.	NS total	NNS total	NS %	NNS %
Strongly agree	6	8	10.9	12.9
Agree	20	16	36.4	25.8
Neutral	19	27	34.6	43.6
Disagree	9	10	16.4	16.1
Strongly disagree	0	0	0	0

I wish I had learned more about other cultures this semester.	NS total	NNS total	NS %	NNS %
Strongly agree	3	2	5.5	3.2
Agree	16	12	29.1	19.4
Neutral	23	29	41.8	46.8
Disagree	10	18	18.2	29
Strongly disagree	0	0	0	0

SURVEY RESULTS ABOUT NEGOTIATION

I understood most of what my e-pal wrote this semester.	NS total	NNS total	NS %	NNS %
Strongly agree	15	20	27.3	32.3
Agree	34	30	61.8	48.4
Neutral	5	10	9.1	16.1
Disagree	0	1	0	1.6
Strongly disagree	1	1	1.8	1.6

My e-pal seemed willing to explain him/herself when I expressed that I didn't understand something.	NS total	NNS total	NS %	NNS %
Strongly agree	11	5	20	8.1
Agree	20	25	36.4	40.3
Neutral	19	29	34.6	46.8
Disagree	4	2	7.3	3.2
Strongly disagree	2	0	3.6	0

I felt comfortable asking my partner questions when I didn't understand what s/he wrote.	NS total	NNS total	NS %	NNS %
Strongly agree	14	5	25.5	8.1
Agree	22	26	40	42
Neutral	16	22	29.1	35.5
Disagree	3	9	5.5	14.5
Strongly disagree	9	0	0	0

My e-pal had a passive role in the conversation.	NS total	NNS total	NS %	NNS %
Strongly agree	3	3	5.5	4.8
Agree	9	5	16.4	8.1
Neutral	11	16	20	25.8
Disagree	14	32	41.8	51.6
Strongly disagree	9	6	16.4	9.7

I had a passive role in the e-mail conversation.	NS total	NNS total	NS %	NNS %
Strongly agree	1	1	1.8	1.6
Agree	4	2	7.3	3.2
Neutral	13	25	23.6	40.3
Disagree	30	25	54.6	40.3
Strongly disagree	7	9	12.7	14.5

SURVEY RESULTS ABOUT ENJOYMENT

I enjoyed exchanging e-mails this semester.	NS total	NNS total	NS %	NNS %
Strongly agree	15	12	27.3	19.4
Agree	19	23	34.6	37.1
Neutral	7	15	12.7	24.2
Disagree	1	11	1.8	17.7
Strongly disagree	1	1	1.8	1.6

I hope to stay in touch with my partner.	NS total	NNS total	NS %	NNS %
Strongly agree	8	3	14.6	4.5
Agree	14	23	25.5	37.1
Neutral	25	25	45.5	40.3
Disagree	7	8	12.7	12.9
Strongly disagree	1	3	1.8	4.5

I would be interested in participating in an e-mail exchange in a future German class.	NS total	NNS total	NS %	NNS %
Strongly agree	17	8	30.9	12.9
Agree	21	24	38.2	38.7
Neutral	7	11	12.7	17.7
Disagree	7	16	12.7	25.8
Strongly disagree	3	3	5.5	4.8

The e-mails were thought-provoking to read and write.	NS total	NNS total	NS %	NNS %
Strongly agree	14	8	25.5	12.9
Agree	21	29	38.2	46.8
Neutral	13	18	23.6	29
Disagree	7	6	12.7	9.7
Strongly disagree	0	1	0	1.6

I felt stress writing my e-mails.	NS total	NNS total	NS %	NNS %
Strongly agree	5	7	9.1	11.3
Agree	19	21	34.6	33.9
Neutral	16	14	29	22.6
Disagree	10	16	18.2	25.8
Strongly disagree	5	4	9.1	6.5

Which assignment(s) did you work the hardest on this semester? (Check all that apply.)	NS total	NNS total	NS %	NNS %
Reading the texts	31	25	56.4	40.3
Writing the essays	49	38	89.1	61.3
Reading/writing the e-mails	23	15	41.8	24.2
Reviewing the grammar	14	15	25.5	24.2
other	3	0	5.5	0

From which assignment(s) did you learn the most this semester? (Check all that apply.)	NS total	NNS total	NS %	NNS %
Reading the texts	52	30	94.6	48.4
Writing the essays	24	23	43.6	37.1
Reading/writing the e-mails	34	17	61.8	27.4
Reviewing the grammar	16	30	29.1	48.4
other	1	5	1.8	8.1

SURVEY FREE-RESPONSE QUESTIONS

The most interesting aspect of reading/writing the e-mails was ___.	NS total		NNS total	
Meeting a new person	30	55%	16	26%
Learning about another culture	15	27%	18	29%
Using German in the exchange	5	9%	9	15%
Learning their view of the US culture	2	4%	4	6%
Learning new vocabulary and slang	2	4%	4	6%

The most difficult aspect of reading/writing the e-mails was ____.	NS total		NNS total	
Waiting for the response	8	15%	17	27%
Thinking of an interesting topic	16	29%	10	16%
Understanding the partner and their vocabulary	15	27%	6	10%
Expressing oneself in German	5	9%	12	19%

I did enjoy the e-mail exchange because____.	NS total 35 responses[15] 58%		NNS total 32 responses 48%	
It was interesting/fun	8	23%	12	38%
It was fun to use German	10	29%	9	28%
I had a good partner	9	26%	6	19%

I did not enjoy the e-mail exchange because____.	NS total 25 responses 42%	NNS total 34 responses 52%

[15] There are more answers to the last two questions than students who answered the survey because some students answered both that they did and did not enjoy the exchange with their explanation why.

I had to wait to long for a response	13	52%	17	50%
Too much work and grading	4	16%	7	21%
I had nothing to say	0		4	12%
I had a bad partner	5	20%	2	6%

The most postive aspect of this course was ____.	NS total		NNS total	
E-mails	17	31%	12	19%
Essays	6	11%	8	13%
Texts	13	24%	10	16%
Teacher	6	11%	9	15%
Learning about culture	6	11%	9	15%
Class discussions/using German	8	15%	12	19%

The most negative aspect of this course was ____.	NS total		NNS total	
E-mails	5	10%	5	8%
Workload	12	22%	9	15%
Texts	5	9%	16	26%
Grammar	5	9%	7	11%
Not enough speaking/class discussions	7	13%	0	

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